DOES NOT CIRCULATE

Volume 53 NOVEMBER 1960 Number 11

THE UNIVERSITY OF MICHIGAN
JAN 4 1961

the Journal

OF THE OKLAHOMA STATE MEDICAL ASSOCIATION

Monument to Medicine — Tulsa's New Saint Francis Hospital
Page 782

4,860 CULTURES... 74% SENSITIVE TO

CHLORO

In a study of the sensitivity of various clinically important bacteria to six common antibacterial substances, Goodier and Parry[1] report "...a greater proportion of the individual strains within the various genera sensitive to chloramphenicol."

Numerous other studies draw attention to the continuing sensitivity of stubborn pathogens to CHLOROMYCETIN.[2-8] For example, Modarress and co-workers observe: "The versatile chloramphenicol was useful each year."[2] Petersdorf and associates[3] state: "There has been no increase in resistance to chloramphenicol... during the past three years."

CHLOROMYCETIN (chloramphenicol, Parke-Davis) is available in various forms, including Kapseals® of 250 mg., in bottles of 16 and 100.

CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

References: (1) Goodier, T. E. W., & Parry, W. R.: *Lancet* **1**:356, 1959. (2) Modarress, Y.; Ryan, R. J., & Francis, Sr. C.: *J. M. Soc. New Jersey* **57**:168, 1960. (3) Petersdorf, R. G., *et al.*: *Arch. Int. Med.* **105**:398, 1960. (4) Rebhan, A. W., & Edwards, H. E.: *Canad. M.A.J.* **82**:513, 1960. (5) Bauer, A. W.; Perry, D. M., & Kirby, W. M. M.: *J.A.M.A.* **173**:475, 1960. (6) Olarte, J., & de la Torre, J. A.: *Am. J. Trop. Med.* **8**:324, 1959. (7) Berle, B. B., *et al.*: *New York J. Med.* **59**:2383, 1959. (8) Fisher, M. W.: *Arch. Int. Med.* **105**:413, 1960.

PARKE, DAVIS & COMPANY
Detroit 32, Michigan

PARKE-DAVIS

Editorial

The Arden House Conference On Tuberculosis

The Arden House Conference on Tuberculosis was called jointly by the National Tuberculosis Association and the U. S. Public Health Service. Both organizations believed that an over-all appraisal of the tuberculosis program in this country was in order.

From various fields relating to this problem 18 specialists were convened with the hope that the meeting would provide new direction and instill new vigor into this country's control program. Sessions were held November 29 through December 2, 1959, at Arden House, the Harriman Campus of Columbia University, located some 48 miles north of New York City.

The recommendations of the Conference, published in February 1960,[1] have been widely discussed at state and national tuberculosis meetings. In general they have been favorably received. The Conference made one major recommendation and eleven lesser ones.

The major recommendation calls for a program for the widespread application of chemotherapy as a public health measure for the elimination of tuberculosis in the United States:

"The goal is to sterilize that important part of the reservoir of tubercle bacilli that presently exists throughout the country in persons currently suffering from active tuberculous disease, but are presently known or unknown to public health authorities, and in selected persons who previously have had active disease and were inadequately treated. The technique to be used is to mobilize all resources for a widespread application of the scientifically demonstrated and medically accepted procedures of adequate chemotherapy. These include the proper dosage of appropriate drugs or a combination of drugs given continuously over an adequate period of time—procedures that are known to destroy tubercle bacilli in the human body, render the patients' disease non-communicable to others, and minimize the possibility of reactivation.

"The unique aspect of this recommendation lies in its emphasis on such chemotherapy primarily as a public health tuberculosis control measure, as well as for the benefit of the individual patient; with all connotations of community mobilization and the control by public health authorities that this new concept implies. This recommendation obviously implies as well an adequate case detection program."

At the beginning of the Conference, it was agreed that our goal was clearly to be the elimination of tuberculosis. In the past, the aim has been a bit less lofty, viz., "to reduce tuberculosis to a minor health problem." There are presently areas in the United States where tuberculosis has been practically eliminated, so the goal is a realistic one that can be achieved in a reasonable period of time.

During the 1950's it was learned that the anti-tuberculosis drugs were truly effective. In fact 85 to 90% of the patients can be rendered non-infectious if properly treated with drugs. Now, during the 1960's the time seemed right for aggressive action to use this tool of chemotherapy to maximum advantage. The major responsibility in carrying out this program rests with the state and local health departments acting in cooperation with private physicians, and hospitals. This role of health departments' supervising treatment is in addition to the

1. National Tuberculosis Association Bulletin.

traditional one of case finding. The majority of such patients supervised have had their treatment initiated in a sanatorium.

In Oklahoma the type of supervision of out-patients under TB drug treatment is as follows: 65% public clinics, 25% private physicians and 10% VA. This ratio reflects the economic level of patients now developing the disease. Fortunately anti-tuberculosis drugs are cheap, and the needed drugs can be provided all clinic patients either at cost, or without charge.

The greatest area of expansion in chemotherapy in Oklahoma since the conference has been among patients with inactive tuberculosis, who have previously had active disease and did not receive drugs or were inadequately treated. The Arden House Conference gave the green light to the use of secondary prophylaxis in such situations. This is a logical expansion of the chemotherapy program. It is a type of approach that will appreciably reduce the reactivation rate among those patients who stabilized their disease prior to the chemotherapy era. During the past six months some 200 such patients attending public clinics have been placed on secondary TB drug prophylaxis.

The conference took recognition of the importance and potential significance of the current field studies of the U. S. Public Health Service in isoniazid prophylaxis. They urged that adequate appropriations be continued for the support of these investigations which may provide a significant shortcut to the elimination of tuberculosis.

In the first study, isoniazid was given to children with primary tuberculosis in an effort to find out if it would prevent complications. There were 2,700 children involved, of whom one-half received isoniazid and the other half received placebos for one year. There were 27 complications in the first year among children receiving the placebo, two among those receiving the drug. This group is still under observation with the program now in its fifth year. (The University Medical Center is a participant.) Thus far this study gives support to the present policy of giving isoniazid to all positive reactors under three years of age.

The second part of the chemoprophylaxis study involves some 60,000 persons under observation in 79 communities and a number of institutions in the United States. In these communities, when the case is discovered, all contacts are tuberculin tested and have a roentgenogram of the chest. Those with active disease, though treated, are eliminated from the study. The rest, both positives and negatives, are given isoniazid or a placebo. Oklahoma County is participating in this study. Incidentally another investigation in TB chemoprophylaxis is being conducted in Ottawa County, Oklahoma. It is a similar "double blind" study but limited to persons with silicosis.

It is too soon to draw any conclusions from this second study but it seems likely that isoniazid will prevent progressive infection while given. How long the prophylactic effect will last after the drug has been discontinued, which is the crux of the research, remains to be seen. Preliminary reports will be available in the spring of 1961. At this point, we should guard against over-enthusiasm in the use of chemoprophylaxis until more knowledge is gained. This is particularly true in childhood where some physicians are now giving the drug to practically all positive tuberculin reactors.

In Oklahoma, anti-tuberculosis drugs are available to those needing them. Chest clinic facilities are also provided. To implement the major recommendation of the Arden House Conference means using the resources we now have to better advantage. All active cases should be carefully supervised and treated continuously for about two years. In addition greater stress should be placed on chemoprophylaxis in certain groups. This particularly should include secondary prophylaxis of selected persons with inactive disease who previously had active disease and were inadequately treated.

Richard M. Burke, M.D.
Conferee, Arden House Conference

What Next?

As we go to press, the campaign is going into its final week; the Department of Public Welfare is preparing to implement the new amendment to the Social Security Law which provides matching funds for assistance in things medical to those past retirement who need it and who are not on the assistance rolls; and organized medicine is expressing thanks to Senator Kerr for his successful efforts to defeat amendments which would have made such a program a social security retirement benefit.

We lost a battle for control of government sponsored medical care programs in the summer and fall of 1959 when we failed to come up with a program of our own. Both political parties are pressing for help for retired people in their medical needs. How it will be done in the future will depend on the political and economic philosophy of those in power at the time.

Senator Kerr believes that if such a program is to be on the basis of need then the cost should be borne by the total national income both at a state and national level, that is with both state and federal governments participating. Organized medicine supports the concept of help for only those who need help. Mr. Kerr also thinks that the approach to the problem through a social security tax would leave out many old people who need help. His bill does not make medical benefits a matter of right but a matter of need.

Trouble over the presently approved program is apt to come when it appears to be too weighty an item in the national budget, which may be soon because of the promises in the platform of both parties; or if too many states do not give their old people a chance to take full advantage of Federal participation in their medical care. In the first instance it can be removed from the budget by financing the program through an additional social security tax. In the second instance, the degree of state participation cannot be controlled at the national level. Federal control means total financing at a national level. Both point toward an additional social security tax.

With Senator Kerr's help, we won the battle of 1960. Is it possible for us yet to win the war? Perhaps it is, with strong leadership and the sacrifice of some of the traditional concepts of medical economics. It will also be necessary to abandon the idea that good doctor-patient relationship is an adequate substitute for a correct diagnosis. This will take much work, much study and time. Surely it is worth it.—*B.H.N.*

American Medical Association Clinical Meeting

The American Medical Association looks forward to holding its 14th Clinical Meeting in Washington, D. C., November 28-December 1 because the physicians who attend this meeting in the nation's capital can anticipate one of the finest scientific programs of our day.

I want to welcome all physicians to this meeting and to urge all members of the American Medical Association to take part in the scientific activities, to visit the scientific and industrial exhibits, and to attend the sessions of our House of Delegates.

Considerable time has been spent to develop the finest scientific program possible, which will stress the theme, "New Developments in Old Diseases and Old Developments in New Diseases."

A feature of particular interest to the practicing physician will be the presentation of both sides of a question where differences exist concerning the management of a disease or medical condition. I personally look forward to some interesting debate on many subjects where opinions differ.

Some of the topics to be covered by leading physicians and scientists from across the nation include gynecology, hematology, obstetrics, coronary disease, pathologic nodules, psychiatry, artificial kidneys, orthopedic surgery, opthalmology, diarrhea, antibiotics and tranquilizers.

The scientific sessions, to be held in the National Guard Armory, will be so arranged so that three sections will take place simultaneously in both morning and afternoon.

One section will be devoted to presentation of formal papers, another to panel discussions, and the third will be a symposium. Of course, all sections will be followed by question-and-answer periods.

The months of prolonged, detailed planning for these meetings have been directed to one goal: to give you, the doctor, the latest, up-to-the-minute scientific information. Our clinical meetings are designed as a sort of post-graduate course in medicine, to provide you with all the major scientific advances under one roof.

A scientific highlight of this meeting will be a series of six one-hour television presentations from Georgetown University Hospital. These shows will feature dermatology, pediatrics, emergency treatment of major injuries, and newer methods in surgical treatment of peptic ulcer, orthopedics and pathology.

Three scientific breakfasts will be held on both Tuesday and Wednesday at the Statler Hotel, highlighting the themes, "To Do or Not To Do," and "Problems of Management" in particular diseases or types of cases.

During the meeting, the House of Delegates, A.M.A.'s policy-making body, will meet at the Sheraton Park Hotel. I cordially invite every member of A.M.A. to attend the sessions of the House. Although only delegates are permitted to speak from the floor, any A.M.A. member may express himself on issues in the reference committee meetings, scheduled to meet all day Tuesday, November 29th. This is one of the rights of A.M.A. membership, and I hope any of you who wish, will take advantage of it.

The participation by doctors from all over America is one of our guarantees that A.M.A. will continue to serve its members best. There is no member who cannot be heard from, or who will be refused an audience. Not only is this a right, but I regard it as a duty of physicians to speak up on matters they think of interest or concern to the A.M.A. and American medicine. Only in this way can we remain alert to changing opinions, new developments and whispering crises.

Another highlight of this meeting will be the election of the General Practitioner of the year. This is in line with the purpose of the clinical meeting—to provide the family doctor with the newest developments in medicine. Of course, the scientific meeting is also designed to inform specialists and researchers as well as general practitioners.

But whether you are a general practitioner or a specialist, a practicing physician or a research scientist, you cannot afford to miss this outstanding clinical meeting. On behalf of the American Medical Association, I cordially invite and urge you to attend. The success of our meetings is measured solely by how helpful and informative they are for you, the doctor.

E. VINCENT ASKEY, M.D.,
President, American Medical Association

"Consultations on Problems in Practice"

A New Concept of Postgraduate Education

Co-sponsored by the Office of Postgraduate Education, University of Oklahoma Medical Center, and the Postgraduate Committee of the Oklahoma State Medical Association, the unique program will feature informal roundtable discussions on common problems facing the medical practitioner. Story on page 790.

DECEMBER 15, 16, 17

University of Oklahoma Medical Center

Twenty-eight consecutive cures of postoperative vesicovaginal fistula using modified Latzko technique. Removal of retention catheter after twenty-four hours.

Treatment of Postoperative Vesicovaginal Fistula

GERALD ROGERS, M.D., F.A.C.S.*

Gerald Rogers, M.D., a 1930 graduate of the University of Oklahoma School of Medicine, has been certified by the American Board of Obstetrics and Gynecology. In addition to his private practice in Oklahoma City, he is Clinical Professor of Gynecology at the University of Oklahoma School of Medicine.

Doctor Rogers is a member of the American College of Surgeons, the International College of Surgeons, the American College of Obstetrics and Gynecology and the Central Association of Obstetrics and Gynecology.

THERE ARE few conditions in surgical therapy which will result in more unending gratitude of a patient for restoration to a life of comfort and usefulness to her family than the closure of a vesicovaginal fistula.

This patient, who otherwise would be a healthy and useful individual, becomes a recluse because of her physical handicap and resulting mental attitude. Her introspective solitary existence, precluding exercise and fresh air, results in a state of poor physical and mental health.

The increase in popularity of total hysterectomy has resulted in a great increase in postoperative vesicovaginal fistula. Recent contributions by Miller[1] and Holden[2] have noted this fact. While they occur much more frequently in the hands of the occasional total hysterectomist, there are few experienced operators who have not encountered this disturbing postoperative complication, even in the case which was not of the radical nature for malignant disease. Unquestionably, the majority result from direct trauma. A considerable number result from necrosis from impaired circulation, produced by ligation of numerous vessels in the bladder wall, or by perforation of the bladder wall with a needle in suture of the vaginal cuff.

Attempts to close postoperative vesicovaginal fistulae have always had too high a percentage of failure, as evidenced by the large number of patients in this series who have had previous attempts at repair. The more common causes of failure were:

1. Too early repair.
2. Failure to adequately investigate patient.
3. Inadequate exposure.

*Department of Gynecology—University of Oklahoma School of Medicine, and Department of Obstetrics and Gynecology—St. Anthony's Hospital, Oklahoma City, Oklahoma.

4. Failure to adequately excise scar tissue —mobilizing fascia and membranes.
5. Closure of layers with tension.
6. Presence of infection.

Pathologic Anatomy of Vesicovaginal Fistulae

Postoperative vesicovaginal fistulae differ in pathology and location from other fistulae. It is always in the vault of the vagina and anterior to the transverse scar of the vault, which forms the posterior margin of its opening. Just behind this scar is the posterior vaginal wall and the cul-de-sac of Douglas. In the early development of this fistula, there is always cellulitis and interference with blood supply, which results in a certain amount of fixation and disappearance of fascial planes. The recurring fistula which follows an attempted repair is often due to this simple point.

The urologic surgeon, the general surgeon, and the gynecologist each claims the repair of urinary fistula within his province. It is not the purpose of this paper to enter into medical polemics. However, if it is the intention of a surgeon other than a urologist to repair such a fistula, he must either have the help of a urologist or be competent to adequately complete a urologic investigation himself.

Prophylaxis

Postoperative vesicovaginal fistula can usually be prevented by observing certain maneuvers, most of which apply to both vaginal and abdominal hysterectomy:

1. The surgeon should hold the structure to be removed with one hand, maintaining traction, facilitating the dissection of cleavage planes.
2. Each step of operation done under direct vision.
3. Cleavage planes should be dissected inside para cervical fascial cuff.
4. Avoidance of use of large curved or angle clamps on vaginal vault.
5. Vagina should be entered posteriorly.
6. Vaginal cuff trimmed close to cervix, except in malignancy.
7. *Routine* total hysterectomy should not be used—rather "selective hysterectomy." Total abdominal hysterectomy, as well as vaginal hysterectomy, has well-defined indication. We agree with DeMoraes[3] that the indications for subtotal or supravaginal hysterectomy should be limited to the contraindications of the total variety. The subtotal should proximate less than 2%.

Treatment

The cure of postoperative vesicovaginal fistula is surgical repair performed at the optimal time under favorable conditions. Optimal time means the period of elapsed time from the onset until the tissue reaction has entirely subsided. The minimum is usually three to four months, during which time minute fistulae may close spontaneously. Each fistula will present its own problems, and the success of the prospective surgical repair will depend upon:

1. Careful preoperative study and preparation.
2. Choice of operative procedure.
3. Meticulous technique, with attention to small details.
4. Vigilant postoperative care.

Types of Operation

There are three accepted methods of surgical approach—vaginal, transvesical, and transperitoneal. At least ninety-five per cent of postoperative vesicovaginal fistulae can be successfully closed by the vaginal route. Latzko,[4] in 1913, reported his first case in which he used a modified partial colpocliesis. Later, in 1942, he reported 31 cured cases in which he used the procedure.

F. C. Falk,[5] in 1951, reported nine cures by the modified Latzko procedure with a well-illustrated technique, re-emphasizing the peculiar adaptability of the operation to postoperative vesicovaginal vault fistulae.

It advances a new principle in using the denuded posterior vaginal wall as a flap to cover the opening in the bladder. The raw surface of the posterior vaginal wall is soon covered by a thin layer of bladder epithe-

lium. It does not require the vesical edges of the fistula to be denuded, nor does it require the bladder musculature to be sutured to itself; thus there is never any tension on the suture lines. It is safe, is relatively easy to perform, associated with little shock or hemorrhage, and the danger of peritonitis is slight.

The success of the operation depends upon the facts emphasized by Latzko, Holden, and Falk:

1. The fistula always occurs in the apex of the vault.
2. The normal apposition of the anterior and posterior vaginal wall, which lessens tension on their sutured denuded surfaces.
3. Absence of tension on the sutured area with bladder distention.

Preoperative Diagnosis and Care

General supportive care of the patient with use of appropriate chemotherapeutic and antibiotic agents if any infection is evident. Urine cultures and sensitivity tests may be valuable adjuncts to routine sediment stains. Careful inspection of the bladder by cystoscopic examination to determine exact location of fistula with respect to trigone, urethral sphincter, and ureteral meatus. To determine whether the fistula is single or multiple, to be certain that it is not ureteral as well, an excretory urogram is often indicated. An associated hydronephrosis should be excluded. The use of the Kelly air cystoscope may facilitate these efforts.

The surgeon should never be coerced into attempting the closure until the optimum time when all cellulitis and tissue reaction has subsided. Too early a repair accounts for the majority of failures.

Technique of Repair

1. *Position of patient*—Lithotomy position facilitates exposure, and anatomical relationships are common to the gynecologic surgeon.

2. *Illumination*—Adequate spotlight or headlight is essential.

3. *Retractors*—Ordinary weighted speculum with small Deaver retractors on sides.

4. *Perineotomy*—In narrow deep vaginas may be necessary. Large Schuchardt incision is bloody and seldom necessary.

5. *Mobilization of vaginal vault*—May be accomplished by inserting Foley catheter. Small fistulous opening may be dilated to

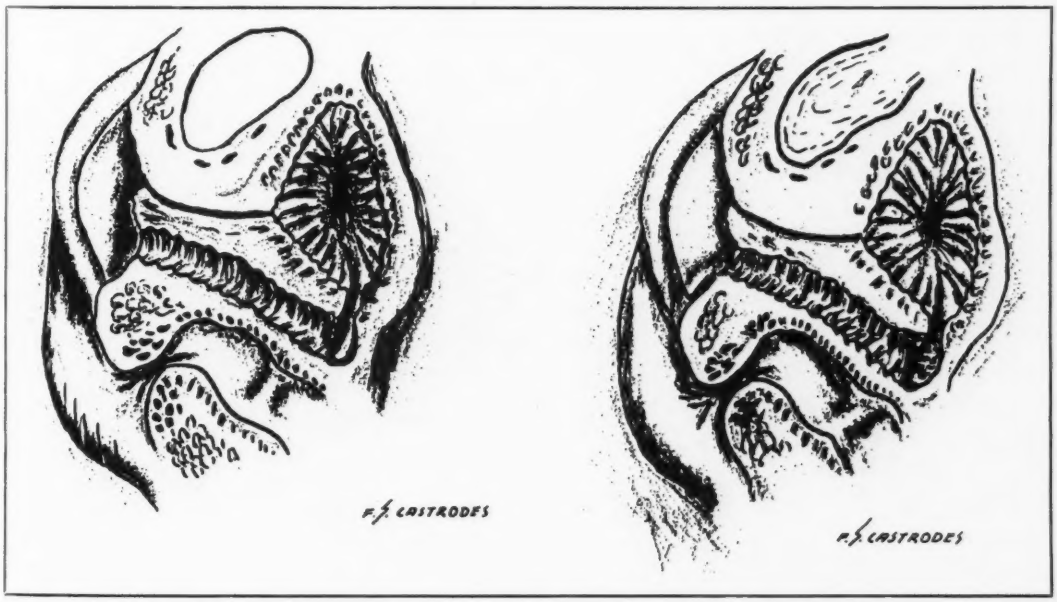


Figure 1. Illustrating location of fistula and area denuded by high colpocleisis.

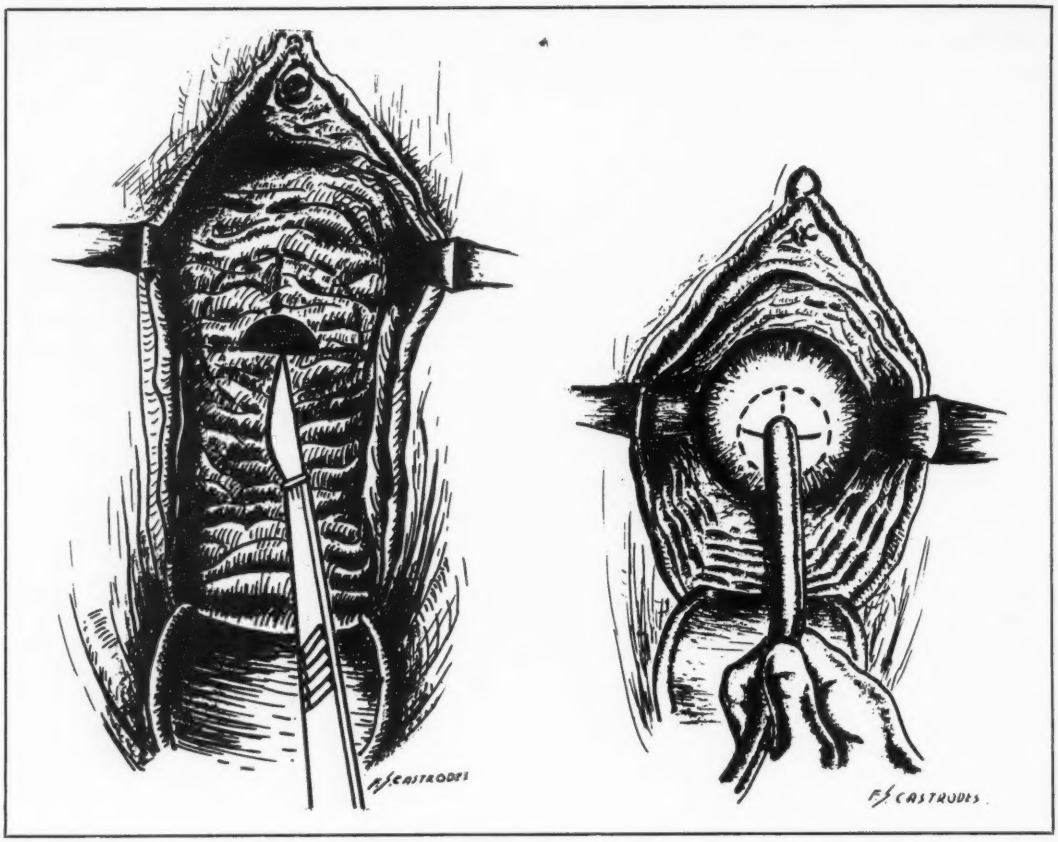


Figure 2. Illustrating area to be denuded, and ease with which area can be pulled down with catheter.

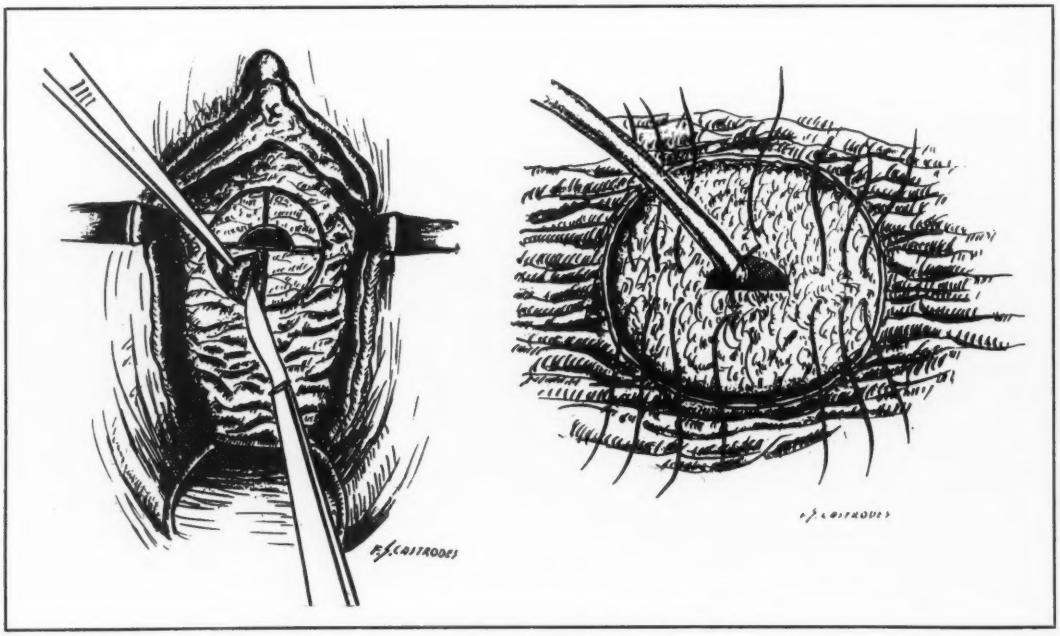


Figure 3. Illustrating denudation and first layer of sutures.

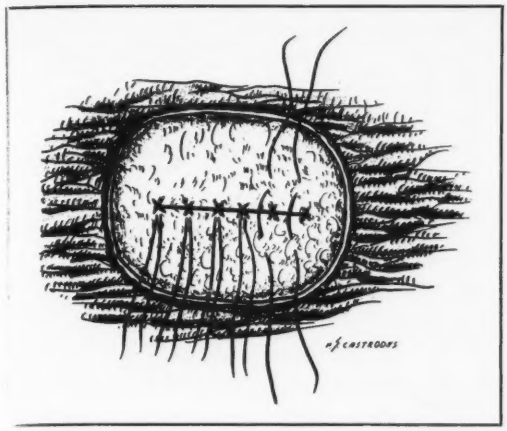


Figure 4. Illustrating placement of second layer of sutures.

admit catheter. Affords better exposure than traction sutures and makes firm surface facilitating denudation about fistula. A minute fistula that is not visible by vaginal examination may be found readily by inserting a ureteral catheter from vesical side.

6. *Denudation*—Area to be denuded is outlined, 1.5 - 2 cm. beyond margins of fistula. Falk's method of removing membrane by quadrants is used. All scar tissue is removed and the edges of vaginal membrane undermined 0.25 cm. beyond margins.

7. *Suturing of wound*—Chromic 00 catgut with atraumatic needles used throughout repair. All sutures placed vertically and are interrupted. The first layer of sutures are placed with catheter still in place. Sutures tied and held as tractors until second layer is placed. Hemostasis prior to suturing must be meticulous. Electro-coagulation was used successfully in several of our cases, avoiding necessity of suture ligature.

Postoperative Care

The postoperative care of the patient is equally as important as the meticulous adherence to technical efforts in the closure. We think that early removal of the retention catheter is a distinct advantage since it cannot keep the wound dry and is an irritant to the healing wound in the bladder. The suture line is stronger the first few days than at any other time, and the earlier the patient regains a vesical capacity, the less tension will be placed on the healing wound, hence:

1. Catheter is removed after 24 hours.

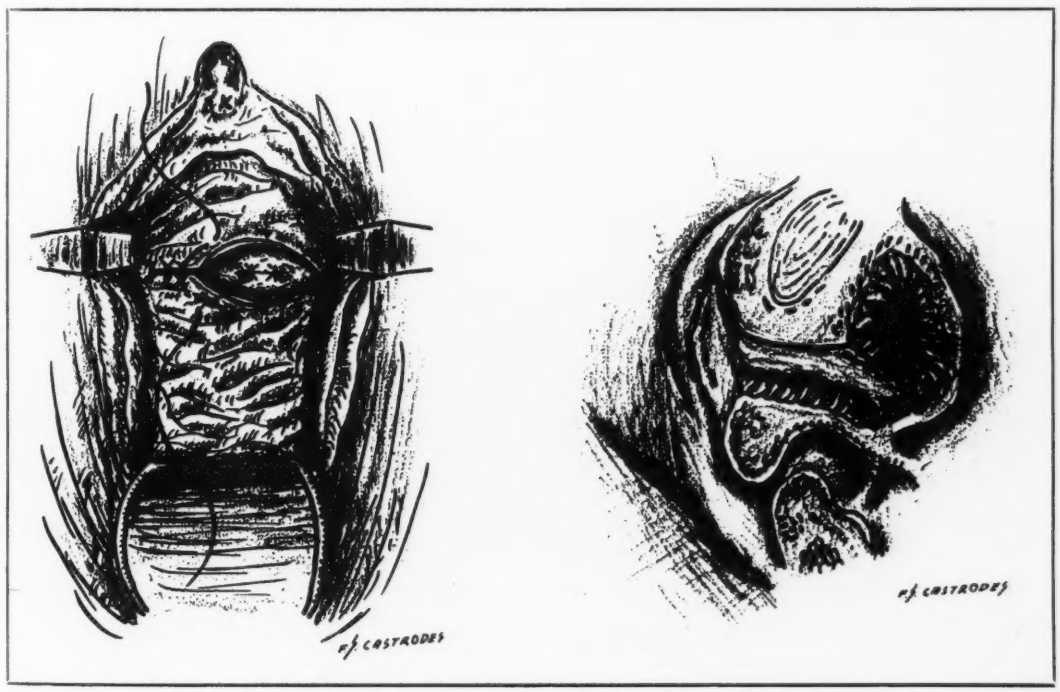


Figure 5. Final layer of suture and diagram of completed high colpocleisis.

Case Number Hospital Age	Date	Original Pathology	Operation	Onset of Fistula	Location	Previous attempts at Closure	Result
1 #264661 St. Anthony 33 years	2 Sept. '52	Myomata uteri	Abd. panhyst. 6 Feb. '52	4 days P. O.	0.75 cm. vag. vault above trigone	Attempted repair 12th P. O. day	Cured
2 #266904 St. Anthony 47 years	4 Sept. '52	Myomata uteri	Abd. panhyst. 1 March '52	3 days P. O.	1 cm. vag. vault above trigone	Attempted repair 26 April '52	Cured
3 #266975 St. Anthony 44 years	6 Sept. '52	"Frozen pelvis," Diabetes mellitus	Abd. panhyst. 14 Mar. '52	3 wks. P. O.	1.5 cm. vag. vault above trigone	Attempted repair 9 May '52	Cured
4 #267740 St. Anthony 19 years	4 Oct. '52	Passed hydatid mole. Persistent bleeding	Panhystero-salpingo-oophorectomy 2 April '52	4 days P. O.	Vag. vault 2 cm.	Attempted repair 6 June '52	Cured
5 W 2276 Wesley H. 66 years	2 Feb. '53	Post-menopausal bleeding	Abd. panhyst.	4th P. O. day	0.25 cm. rt. vag. fornix near meatus	3 previous attempts at closure	Cured
6 #284247 St. Anthony	10 June '55	Myomata uteri	Total abdominal hysterectomy February 1953	4 days P. O.	0.5 cm. high in left vaginal fornix	Attempted closure 18th postoperative day. Constant drainage since.	Cured
7 #310167 St. Anthony 63 years	1 July '55	Fistula following delivery 1919 (36 yrs.)	Vaginal delivery	7 days P. O.	0.5 cm. 3 cm. above cervix, 1 cm. left of midline	Attempted closure 1919	Cured
8 #297737 St. Anthony 33 years	8 Sept. '55	Chronic salpingitis	Total abdominal hysterectomy, bilateral salpingo-oophorectomy	4 days P. O.	0.75 cm. Left vaginal fornix	Attempted closure at 6 weeks with failure	Cured
9 #302529 St. Anthony 75 years	10 Jan. '56	Cancer	Panhysterectomy for carcinoma of corpus uteri 1933	Immediately following surgery	Minute-Midline of vault. Constant drainage	Attempted closure by fulgeration on two occasions with failure	Cured
10 University Hospital T.S.	14 Jan. '56	Myoma uteri, chronic salpingitis	Panhysterectomy	8 days P. O.	1 cm. Left fornix, extensive scarring	None	Cured
11 #304403 St. Anthony 48 years	16 Feb. '56	Fibroids	Panhysterectomy for pelvic tumor 28 May 1955	Immediately	.25 cm. with canulized tract 1 cm. long	Attempted closure 6 months later	Cured
12 St. Anthony 33 years	4 Apr. '56	Chronic cervicitis of stump	Vaginal trachelectomy	7 days P. O.	0.5 cm. opening midline of vault	None	Cured
13 #310595 St. Anthony 48 years	13 July '56	Pelvic tumor	Panhysterectomy February 1956	4 days P. O.	2 small fistulae with median bridge. Left vaginal fornix	Attempted suture or cautery at two weeks	Cured

Case Number Hospital Age	Date	Original Pathology	Operation	Onset of Fistula	Location	Previous attempts at Closure	Result
14 D. St. Anthony 3 years	12 July '56	Myomata	Total abd. hyst.		2 3-mm. fistulae just anterior to scar and separated by dense scar tissue.	0	Cured
15 G. 18075 St. Anthony years	14 Jan. '57	Dysmenorrhea	Total hysterectomy 10 May 1956		0.75 cm. fistula just anterior to transverse scar - midline	Attempted repair on 20th post-operative day. Failure	Cured
16 S. 24246 St. Anthony years	13 June '57		Total hysterectomy 20 November 1956	6 days P. O.	0.5 cm. fistula in left angle of vaginal cuff	0	Cured
17 D. 09522 St. Anthony Age 77	15 Apr. '58 Surgery deferred 19 mos., awaiting progress from Ca Rx and recovery from stroke.	Ca of cervical stump	Radium therapy	6 weeks later	3 cm. fistula in apex of vaginal vault. Marked atresia.	0	Cured (obliteration of upper ⅓ vagina)
18 W. 342692 St. Anthony Age 37	9 Oct. '58	Myoma	Total hysterectomy Repair incisional hernia.	2 weeks P. O.	0.25 cm. midline anterior to transverse scar	0	Cured
19 Age 32	April 1946	Patient Operated on by James Boyle, M.D. Myomata	Total abd. hyst. October 1945		2 mm. fistula just lateral to midline and posterior to trigone	0	Cured
20 Age 44	June 1946	Patient Operated on by James Boyle, M.D. Myomata	Total abd. hyst. October 1945		2-3 mm. fistula just lateral to midline and above scar	0	Cured
21 Age 54	Jan. 1947	Patient Operated on by James Boyle, M.D.	Total abd. hyst. 1943		Much scarring. 3 mm. fistula in midline.	Attempted closure by urologist in 1943 by suprapubic approach. Patient kept recumbent 6 weeks. Failure	Cured
22 Age 26	Jan. 1947 Fistula closed and partial colpocleisis	Patient Operated on by James Boyle, M.D.	Forceps delivery April 1957, 9# baby, mother 240#. Although fistula existed, a T.A.H. performed for "uterine fixation and old P.I.D."		Vagina very deep and wide. Fistula 7 cm. Unable to identify either ureteral orifice.	0	Cured Bladder appeared normal and ureteral orifice visualized
23 Age 32			Caesarean section		2 cm. fistula located 3 cm. posterior to trigone, just anterior to cervix	0	Cure Closed by 3 layers imbricating suturia

Case Number Hospital Age	Date	Original Pathology	Operation	Onset of Fistula	Location	Previous attempts at Closure	Result
24 #322471 St. Anthony Age 48	1 May '57 Closure	Patient Operated on by John F. Kuhn, M.D.	Tot. hyst., bilat. sal. oophorectomy, Aug. 1956, Belflower, Calif.	7 days P. O.	3 mm. fistula left vaginal fornix, anterior to scar.	0	Cure
25 #348685 St. Anthony Age 34	20 Jan. '59 Partial trachelec. Closure of fistula	Patient Operated on by William Bond, M.D.	Total hysterectomy	5 days P. O.	Piece of cervix retained. Small 3 mm. fistula just ant. to cervix, below trigone	0	Cure
26 Univ. Hosp.	June 1959 Routine closure plus oblit. of upper ¼ of vagina.	Patient Operated on by William Bond, M.D. Ca of cervical stump with extention to bladder wall	Radium and deep x-ray Mar. 1957		4 cm. fistula at base of bladder. Involved portion of trigone. Ureteral orifices intact. Extensive scarring.	0 Pending evidence of cure of Ca	Cure
27 Mercy Hosp.	2 May '59 Routine closure	Chronic pelvic infec.	Total abd. hyst. with bilat. salp. oophorectomy	2 days P. O.	1 cm. fistula left fornix with extensive scarring	Attempted closure on 9th P. O. day —failure	Cure
28 Univ. Hosp.	May 1959 Routine closure	Patient Operated on by J. B. Ballina, Sr., M.D., Resident, University Hospital	1952-Hyst., left tube and ovary. 1954-Right tube and ovary. Jan. 1958-Lysis of adhesions. May 1958-Excision of endometrioma.	Immediately after May '58 surgery	2 cm. fistula in left vaginal vault. Extensive scarring	1. 1 week after onset. Failure 2. 1 week later. Failure. 3. Jan. 1959 Transvesical closure with Moskowitz obliteration of cul-de-sac. Recurrence with removal of catheter 12th day.	Cure

2. Patient is ambulated and encouraged to void.

3. Catheterize every two hours with glass catheter if unable to void.

4. Catheterize for residual urine, if able to void, until less than 60 cc on four occasions.

5. Appropriate urinary antiseptic as determined by preoperative sensitivity tests.

Summary

1. Pathological anatomy of postoperative vesicovaginal fistula is described.

2. Method of closure, consisting of partial high colpocleisis, so ably described by Latzko, Holden, and Falk, has been re-emphasized as the simplest most practical method of closure.

3. Adequate preoperative study, optimum time of surgery, and the abandonment of prolonged retention catheterization.

4. Twenty-eight consecutive cases are presented in which a cure has been effected by the modified Latzko procedure. Twenty cases were operated by the author and eight cases by other physicians using this technique and postoperative care.

BIBLIOGRAPHY

1. Miller, N. F., Am. Jrnl. Obst. & Gyn. 1935, 30: 675.
2. Holden, F. C., Am. Jrnl. Obst. & Gyn. 1942, 44: 880.
3. DeMoraes, Arnoldo, Am. Brazil Ginex., 1953, 35: 1929.
4. Latzko, William, Am. Journal Surgery 1942, 58: 211.
5. Falk, F. C., Surg. Gyn. & Obst. 1951, 93: 404.

1111 North Lee, Oklahoma City, Oklahoma

A tumor of extraordinary size producing little difficulty.

Neurilemmoma of Peripheral Nerve

Report of A Case

FRANK L. FLACK, M.D.

Frank L. Flack, M.D., graduated from the University of Kansas School of Medicine in 1912. In private practice in Tulsa, Doctor Flack has been certified by the American Board of Surgery.

He is a Fellow of the American College of Surgeons, a member of the Southern Medical Association and the Tulsa Surgical Society.

IT IS REMARKABLE, even surprising, how large a tumor involving a peripheral nerve may become and cause absolutely no symptoms of any kind, except the presence of the tumor mass itself. This case of a neurilemmoma of the sciatic nerve is interesting because of its size and lack of associated symptoms.

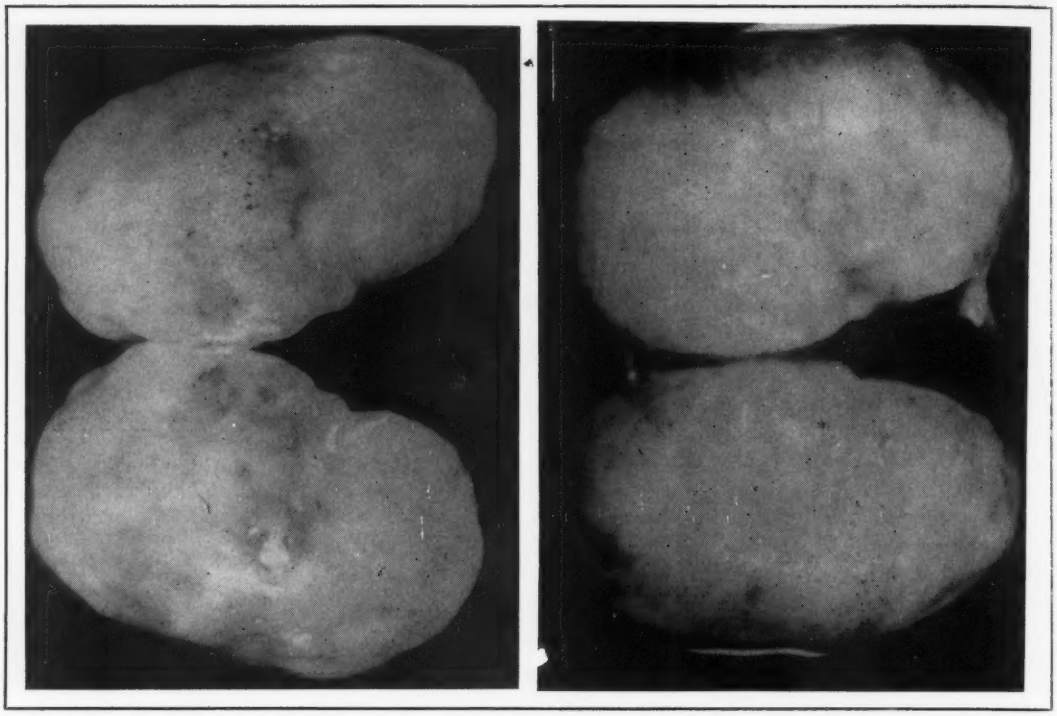
A 22 year old male, N. T., was referred to me by W. N. Coots, M.D., because of a tumor on the back of his thigh. He stated that about six months previously he had suddenly noticed a lump on the back of his right thigh, just above the knee joint. He stated that it was as large when he first noticed it as it was on the date of the examination, July 2, 1955. In his opinion it had not increased in size since the first time he noticed it six months ago. He thought it to be a sprained muscle or charley-horse, and saw no occasion to consult a physician. In June he was examined by a physician at Fort Benning, Georgia upon entering a summer camp, and was advised to consult his home physician without delay. The only symptom he admitted was moderate pain when he struck this tumor against a hard object.

Examination showed a large ovoid mass in the mid-line of the posterior right thigh, just above the popliteal space. This mass was about 15 cm. in diameter. It was movable in all directions, except for some evident attachment, just posterior to the femur, but it was not attached to the femur. In consistency it was dense elastic. The skin over this tumor was freely movable; there were no soft areas or points of fluctuation. No bruit could be heard over the swelling, no distended veins were seen and it was not hot.

There were some lymph nodes palpable in the groin, but they were small, hard and were not tender. He had no sensory change in this extremity; there were no changes in the skin; the peripheral vessels pulsated normally; and there was no restriction or limitation of any muscle or joint. The symptoms consisted only of a tumor on the back of the right thigh.

In St. John's Hospital in Tulsa, Oklahoma under spinal anesthesia an incision was made over the mass and it was found to originate from the sciatic nerve, just before this nerve divides into the internal and external popliteals. It was a solid tumor, dense elastic, and attached only to the sciatic nerve. It came out of the nerve. The fibres of the nerve fanned out over this mass and were spread out in a beautiful and orderly fashion, as if they had been skillfully arranged. Without great difficulty this tumor was shelled out and the incision closed without drainage.

Doctor Emil Palik, the pathologist, later described the tumor as follows: "The specimen consists of an ovoid, yellowish-pink tumor, measuring 12 x 8 x 6.5 cm., and weighs 330 gms., which on section presents a mottled moist glistening, yellowish-pink cut surface. An additional portion of the specimen consists of a grayish-pink membranous piece



Gross Specimen

of tissue, representing a capsule measuring 10 x 8 x 0.2 cm. Microscopic Examination: The specimen consists of a well-encapsulated tumor composed of strands of spindle cells arranged in parallel fashion, in some areas having oval and spindle-shaped hyperchromatic nuclei, with small acidophilic, sometimes fibullary cytoplasms. The cells are arranged in a loosely knit stroma. No bizarre mitoses are present. Diagnosis: Neurilemmoma."

Arthur Purdy Stout, M.D., whose experience is greatest in this class of tumors, says, "There are only two of these tumors in *our* collection which were buried with the sciatic nerve in the fashion you describe; one was 3.5 x 4 cm., the other was 6 x 8 cm. Your tumor was much larger than either of our two."[1] In the Atlas Tumor Pathology, Section II, Fascicle 6, nineteen names are given to this tumor[2] "When found peripherally," Stout says,[3] ibid, "They rarely attain a size greater than 6 cm." R. Hernandez, M.D., thinks these tumors contain elements from both Henle's sheath and neurolemma cells (cells of Schwann).[4]

On this date, April 6, 1956, this man shows no sensory changes after careful testing. He has free and complete use of his leg, except for the muscles which are innervated by the deep peroneal branch of the external popliteal nerve, involvement of which has caused a slight foot drop. This foot drop is not complete; he walks without difficulty or disability and his incomplete foot drop shows evidence of improvement. His occasional twinges of pain are encouraging.

These tumors are benign and no reference has been found of any developing into a malignant Schwannoma and when shelled out they do not recur. Such a neurilemmoma on a peripheral nerve is so benign and so unlikely to recur that the proper treatment is to shell it out and thereby the nerve fibres may be saved and normal function of the extremity remains.

A subsequent examination of this patient shows the physical findings to be the same as those reported in April, 1956.

BIBLIOGRAPHY

1. Personal communications.
2. Atlas of Tumor Pathology, Section II, Fascicle 6. "Tumors of the Peripheral Nervous System" by Arthur Purdy Stout, M.D., page 15.
3. Stout, ibid, page 16.
4. R. Hernandez, M.D., personal communications.

1747 S. Florence, Tulsa, Oklahoma

Medicine can help football coaches promote the emotional development of young men. Likewise, coaches can help medicine by sharing certain types of information.

Some Psychiatric Considerations in Coaching Football

CHESTER M. PIERCE, M.D.

Since graduating from Harvard Medical School in 1952, Chester M. Pierce, M.D., has been certified by the American Board of Psychiatry and Neurology. Doctor Pierce is now Assistant Professor of the Department of Psychiatry at the University of Oklahoma School of Medicine.

Doctor Pierce is a member of the American Psychiatric Association, the American Psychosomatic Society, Sigma Xi and an associate member of the American College of Physicians.

Introduction

EVERY sports-minded citizen in the United States knows that the Oklahoma high schools produce, year in and year out, some of the finest footballers in the nation. This is a tribute to you—and a very great tribute. Therefore, it is with much hesitation that I come before you to present any facet of football coaching, since you have proved yourselves as truly great professionals. I'm mindful, therefore, that what I tell you will probably be things you have known for many years.

My problem is complicated by two other considerations. In the first place, subject matter such as "The Football Coach as a Preventive Psychiatrist" has been well covered by Doctor Louis J. West.[1] Secondly, I want very badly to be able to tell you something you may find useful in coaching young athletes, since I, like many others, acknowledge in gratitude the debt I owe to football and particularly to the fine men who coached me from elementary grades through college.

In a very scholarly book entitled, "Individualism Reconsidered," it is written that if one wants to understand the American civilization, he should study the playing fields at South Bend on some Autumn Saturday afternoon.[2] Today we'll inspect the main contributors to such a Saturday afternoon, namely the players and their coaches.

To accomplish this inspection we'll consider first something about adolescent psychology. Next we'll try to understand why some adolescents would choose to play football. Finally, we'll touch on selected subjects whereby emotional manipulations may be applied by the coach not only during the season but also during the off season.

A main point that a physician can make is that if you as coaches recorded some of

Presented to the Oklahoma Coaches Association, August 10, 1960, Biltmore Hotel, Oklahoma City, Oklahoma.

your experiences in a more specific manner, psychiatrists would know a great deal more about many subjects ranging from predicting success in combat to how to handle teenage hoodlums. So what I would ask you to do as a part of the increasingly scientific evolution of all sports, is to record, record, record. Then compare your observations with others. Then use these data to predict what would follow which coaching maneuver. Probably most of you here know the heights and weights of your players, their speed in a hundred yard dash, perhaps even their grip strength or the number of pushups the lad can do. What I'm suggesting here is that to be a "complete" coach in the scientific day in which we live, it will be to your interest to know not only these physical attributes, but also emotional attributes. Thus you need to record and know such information as how many girl friends does this boy have, why didn't he get along with the English teacher, how does his mother treat him, why does he want to play football, etc., etc., etc.

Once you know such data and have observed and tried to use it predictively, I submit to you that within a few seasons you may have a more objective basis for things you do by intuition. Thus you'll be in a better position to control bottlenecks and speed up the development of your players since you'll know which boys to tease, which scrimmage event calls for an insult to a boy before his peers, which boy needs to be the coaches' pet and you'll know how to get a good player worked into a clique whose existence may have dated by years this player's arival in your school.

One of the persons in your community who probably will be very glad to help you learn to know how to keep records and how to find out things of value in helping a boy grow up is the local doctor. The doctor is trained to do these things and generally, by disposition, he is keenly interested in the problems of youth. So, if you ask your doctor to help you, perhaps these psychological considerations I'm about to mention will not appear so awesome.

Adolescent Psychology

You all know that adolescence is an extremely turbulent phase of life. It is characterized by the indecision of wishing to remain a child versus wishing to be an adult. Since the old role of being a child is familiar and secure, it is difficult to accept a new unexplored role of accepting mature responsibility. During these transition years in which the boy is trying to become a man, he needs guidance to assure him he can become an acceptable, respectable man who does not need to rely completely on the decisions of others. Also, as you know it is an age of the blossoming awareness of one's body and to what purposes one may put it. And it is an age in which peers can be particularly devastating if one suffers social or physical stigma such as shabby clothes or insufficient money for a date or small stature or lack of comely appearance. Plagued by all these conflicts and yet pressured relentlessly both to remain a child (you must be in from a party by such a time) and to grow up (you must behave like a sober, responsible adult while at the party) the teenager may rebel against constituted authority.

Motivations for Playing Football

One of the best and readily available ways to eliminate adolescent doubts is to go out for a football team. In this way one can solve simultaneously core conflicts at many levels, including conflicts of dependency, sexuality, hostility and status.

The boy who plays left end for his high school is showing his independence. Ultimately there can be no one else out there flanking the line, telling him what to do, how to do it. It is an independent (indeed as Colonel Blaik has made explicit it can be "lonely") existence. Yet, one is not really independent—as indeed he never can be in any normal life situation. For on his team there are others. Thus the left end like all others can feel that he belongs to a group and yet he has the advantage of being independent. What other group can provide this balance so well? Certainly not the family unit from which he is indecisively trying to extricate himself. At home he may, for instance, belong, but he can't feel as independent and on his own as he does as he awaits the charge of an opposing tackle. Thus the footballer chooses football to prove his in-

dependency while having his dependency gratified by being a team member.

Perhaps even more salutary for a boy is to be able to prove his sexuality. The teenager has doubts, fears, worries about his masculinity—his worth as a man. Can he, he wonders, measure up to the demands of adult manhood? Compared to others, "do I have enough of what it takes?" While being the one in a two on one drill the boy can prove to himself how well he compares to others. And he can see what reserves of strength, agility, assertiveness he has which he has never before realized.

For other boys football is chosen and loved because it is a socially acceptable manner to express hostility. True your linebacker may be proving his ability to function independently and he may be demonstrating that he is indeed a man. Yet it may be most important for him to be able to knock heads in order to give vent to wrath pent up by social necessity. Of this social necessity, you, as coach should know how much is contributed to by a restrictive mother, how much added by a nagging teacher, how much aggravated by a controlling girl friend. Of course, you must estimate how much hostility going into the vicious use of hands by your linebacker is hostility displaced from you onto the enemy lineman who pulled out to complete his assignment on your mean linebacker.

Finally, as a motive to play football, is the traditionally important one in which our culture confers a special status on the footballer. The prestige motive is probably more consciously recognized by you, the player and the fans. But as you recognize it you should try to see why it is important for this particular boy to get prestige. In this way you may learn how to manipulate the prestige motive. For instance one youth may be playing, prestige wise, to impress the coeds in the school. Another youth, though not oblivious to this possibility, may be playing to show the townspeople that even though his old man was an alcoholic bum, he, the player, is someone to whom deference is owed.

Naturally, all these motives are admixed and are present in all the boys you coach. If you are able to sort out which motive is ascendant or paramount at a given time, you may be able to elect to suppress it or to develop it further. For example, you may want to suppress ideas of strength and masculinity in the player whom we could dub "Ferdinand the Bull." You've all seen many boys like this—big, strong, fast, courageous. Yet they won't mobilize their masculinity to measure up to their potential. You might find such a player is afraid he would hurt someone if he really used his power. Your maneuver then, would be to reassure him about the use of this power. Yet this should be dampened in comparison with making him more motivated to become independent, or more conscious of status privileges. Similarly you may find that you have a potential all-American if you emphasize one area of motivation. It is well known that people will cover up true feelings by developing the opposite traits. Technically, this is called reaction formation. The classroom example is the pious church deacon whose duty impels him to visit burlesque shows in order to censor them. In your school you may find a nice, gentle, placid guard. If you're successful in mobilizing him to negate his reaction formation (i.e. that he is gentle and placid to cover up his seething, unconscious rage), then you may have the pleasant situation of what the journalists write about when they say so and so is the nicest guy in the school, until the kickoff whistle! It is your job to emphasize and call up to the lad, that the football field is the one best place in his world where he doesn't have to be gentle and nice.

Theoretical Psychology in Football

So much for motivations for playing football. At this point you may well wonder how important theory and application of psychology has been in your coaching. Every man here can recall with vivid emotional accompaniment, football experiences which occurred many years ago. This shows how deeply ingrained these events can become. Who does not feel uneasy as he recalls how 100,000 eyes saw him miss the vital tackle in an open field? No one forgets the humiliation before his peers, as the coaches re-run over and over, in slow motion, a play in which an opponent 20 pounds lighter mouse trapped him. But there is also exquisite joy

in playing football. One of the most happy places I have ever seen was the locker room of Ohio State a few years ago when they had defeated Iowa for a trip to the Rose Bowl.

Furthermore, if you would ask, such as I have done, a series of coaches what they like to see most in their players, nearly all the responses would be psychologically oriented. During the course of an exploratory investigation done with the help of the University of Wisconsin, I asked coaches the above mentioned question. Here are some typical replies. "I like a mean S.O.B. . . . I like a kid who really goes to work if blood is drawn . . . give me a cool, calculating quarterback . . . I want my halfbacks to just love to carry that ball . . . my fullbacks won't let one man bring them down . . . nowadays I don't want to look at a kid unless first of all he's smart . . . it takes a long time to teach a tackle that he can *will* himself across the line faster than his opponent."

Applied Psychology in Football

All of you here have applied psychological strategems in your coaching. There would be maneuvers such as initiation rituals (the veteran team members giving a slight hazing to the newcomers). Nearly all cultures have some sort of initiation ritual for the teen ager as he becomes a man. One important reason of these rituals is to impart the secrets of the tribe. Young players, struggling toward manhood, will thrill to the secrets of the tribe, which you impart daily in your role as a wizard. In this case you impart the finer points of football play. These secrets from the wizard are accepted with enthusiasm if the dispenser is a person whom the recipients respect, admire and trust. But how do boys get to place these qualities onto their coaches?

In order to do effective psychotherapy, it is necessary for there to be a relationship between the doctor and patient which abounds with mutual respect, confidence and trust. The doctor-patient relationship and the coach-player relationships would be similar in this regard. Studies with teenagers have shown that the therapeautic relationship can be attained if a therapist intrudes himself onto a subject and his family. The therapist elects to exert controls on the subject in an atmosphere which is permissible and flexible yet sufficiently stern. The therapist devotes much of his attention to the routine, daily needs and comforts of the subject. Mostly, the relationship develops optionally, if the therapist continues it in a sustained manner.[3] In essence, the therapist promotes mutual respect, trust and confidence if he brings an aggressive friendliness to the youth and sustains it whether or not the youth is having specific troubles. This aggressive friendliness includes visits to the family.

I would suggest that a highschool coach could do the same thing in a deliberate plan. He would have to guard against over-friendliness. He would have to be certain that the boy saw him as a coach—but as a coach who was interested in him and not just nosey. In the plan of aggressive friendliness, the coach would call his boys in, either alone or in small groups, during the off season, to "punch the bag." Naturally, such talks would include general talk of football and "secrets" about schedules or procedures or famous players or advances in the science of the game. Yet the talks could, if done in a natural way, lead to a discussion of the boys' extrafootball life. In this way the coach could show interest and gain information about a variety of important data such as dating, grades, home problems. The coach in his role as preventive psychiatrist would use these sessions mainly to let the boy talk. When the coach did talk, it would be about "secrets" or to modify the youth's motivation for football. Example: To augment a boy's need to be lionized or decrease another boy's need not to express hostility. Always (unlike the psychiatrist) the coach could encourage higher aspiration levels whether it be playing a game or deciding on a career. The encouragement of aspirations also would have to be guarded since you must take care not to let the boy feel that he will disappoint you if he doesn't meet lofty expectations. Yet, generally, all teenagers could be encouraged to higher rather than to customary aspirations. Such talks, of duration compatible with your schedule, should be informal and repeated at least several times between seasons. And, as I suggested to you,

the value of these talks would accrue to you if you took a few notes after the boy left and then spent a few minutes thinking over what you now know about the boy and his background and his view toward life. By the fall you might have entirely different concepts about how you'll manage each player.

There would be many problems we could speak about. I'd welcome your empirical observations about a variety of individual and group phenomena. Such observations, as I've noted, would help us know more about clinical phychiatry. For instance, what has been your experience in regard to the "exhibitionist" (the player who plays well only in front of crowds) versus the inhibited exhibitionist (the player who is a tiger at practice but a lamb in the game)? What factors enter into the selection by the team of a team scapegoat? Why do you feel some boys are early bloomers and others are late bloomers? Of the early bloomers, why do some fade? Have you noticed a difference between a player whose mother urges him to play football, compared to a boy whose mother is apparently neutral or even negative about his playing football? How do you predict when your team is over confident? How is a boy affected when his father comes to argue with you? Does it seem helpful to a boy to have a giving, cooperative father who hovers closely about practices, never misses a game, etc? What are the processes by which a team bounces back from the disaster of a colossal defeat? These and many other questions could be asked to focus your attention on psychosocial influences on your coaching.

Yet, time will permit only a brief examination of a few subjects. Some of the subjects most perplexing to me are these: the player in the slump, the player who is an outcast (not a scapegoat) of his team, the acquisition of injuries, the coach's emotional fallibility and the need to give players the permission to be great.

Slumps occur in all sports. As a psychiatrist I've treated only one person whose chief complaint was a slump. However, this limited experience was intensive in the number of hours involved and the patient happened to be a major league baseball player. In fine, the slump was caused by this man's unconscious belief that the pitchers were his older brother. The older brother was more successful than the patient in every way except as a baseball player. This young man felt guilty over his success, since it so eclipsed his big brother. The slump came in a setting in which the athlete was threatened by the fact that he was about to find a wife, who would be more esteemed by the society than his brother's wife. That is, he was threatened by the imminence of another success over his brother.

I believe that nearly all player slumps can be more quickly resolved by an intimate knowledge of the player's current emotional life and past background. So when a pass defender suddenly starts losing track of his man or his zone, look at his current life as well as his footwork. See if there is a worry about a grade failure or a jilting from a girl friend or a conflict with mother about what time he gets in from practice. Perhaps you'll find something you can remedy. If not, you've at least made this boy know that you're interested in helping him and that you are understanding.

Psychiatrists are much concerned with why a person isn't accepted by a group. To a football coach this may mean the loss of a good player, for such a boy is likely not to measure up to his potential. Or more tragically, perhaps, a boy will quit football after having made the team. There is no general answer to this problem. In group therapy a person leaves the group or becomes an outcast for many different reasons. Some of the reasons which might obtain in football would include these: different standards (example: 20 years ago, unlike today, a weight lifter might be discriminated against by his peers), inability of the doctor (coach) to take a stand for the outcast (example: to state that lifting weights was o.k. if a guy wanted to do it), fear of being found out (i.e. that there would be noticeable differences in his dependency strivings, sexuality, hostile expressions or prestige yearnings), anger at lack of attention (example: the player couldn't cooperate with his peers since he was not the super star or he felt the coach didn't give him enough attention).

It is a difficult concept to envision that injuries might represent psychologic difficulties. Yet, we know enough now to realize that not only are injuries frequently the inappropriate solution to a conflict, but actually, the injured site has symbolic significance to the person injured. Suffice it to say that football injuries may be the result of unconscious fears (such as being too successful) or may be the unconscious result of desires (such as the desire to get attention and sympathy while finding an excuse for poor performance).

An even more difficult conceptualization is that of how the coach can unwittingly hold back the development of his team because of his own emotional troubles. The psychiatrist has this trouble in treating patients. For a football coach it may be that his own emotional outlook or background will cause him to play favorites. Or he may discriminate against a player who should be playing more regularly. For example, a coach may incorrectly insist on playing a boy because, in actuality, the boys reminds him of himself. Or a coach may take a negative view toward a boy whom he knows to be a ladies' man. The coach may discriminate against this boy, unfairly, because he, the coach, is angry that this teenager is enjoying a life which the coach wishes he had enjoyed. Whenever you feel particularly strong on a boy, be sure it's because of his football ability. You may err in both directions, liking or disliking a boy too much, because of your own life experiences.

When you consider this problem, be sure to realize that it works both ways. Thus, a player also will develop, unconsciously, irrational attitudes toward you as a coach. The player may like or dislike you on the basis of his past life experiences. Therefore, if a boy's father is very strict and much hated by the boy, it might be that your efforts at implementing training regulations will be met with the same hatred the boy feels for his father. It may come also as a shock to consider that your young tigers may see you, psychologically speaking, as a beautiful, giving, indulgent mother. It is not infrequent that a rough, smooth relationship can be assumed with effectiveness by a coaching staff. The lad can picture his backfield coach or line coach as a punitive, authoritative, restrictive parent figure. Thus he is a paternal or father figure. The head coach may wish to be the smoothie or mother figure (which in our culture has considerable say about how the family unit operates). Such coaches are seen by the boys as a person to whom they can appeal to for surcease from the father figure-coach. This indulgent, kind mother figure-coach is someone for whom they can "really play for." It seems logical that someday, some coaches will be technicians and strategists who coach with hardly ever seeing the boys. That is, they will digest scouting reports, make defense plans, etc. Other coaches, who handle boys better, may be the ones who do the field work.

The most difficult concept I'll present to you is the one that it is necessary for you to give permission to your boys to be men. You must tell them over and over and show them that they can be great. Even superstars need this reassurance. Some athletes are prone, for a variety of reasons, to have a "success" neurosis. That is, they are wary about being too successful. When success comes it must be diluted by such means as having an injury or becoming an outcast or going into a slump or amazingly enough by not becoming an all-American.

The Ferdinand the Bull is present in all sports. I knew an Olympian who went out and boozed and made love to a couple of wild coeds. The next day despite this handicap, he broke a world's record. It is as if he said, "suppose I really show my stuff, I'll be too successful and I'll be hurt." I once attended a wrestler of great repute (all the other "major league" wrestlers indicated this was the strongest man amongst them). This man's arm was so large I couldn't fix a blood pressure cuff on it. However, clinically, he was a true hypochondriac. His psychic economy demanded that he think of himself as puny, weak and sickly. Therefore, he could give an excuse not to be too successful—for if he did use all his great strength it might be too awful.

For technical reasons, what we term "psychodynamic factors," you as coaches are in the position to give these young boys per-

mission to be successful men. If you do so, you'll help not only your teams, but you'll speed these boys toward the goal of healthy manhood.

Conclusion

The highschooler has problems of adolescence which can be partially resolved by playing football. In order to be more scientific, the coaches are urged to record more of their observations in order to predict coaching maneuvers which would be successful.

By getting to know more about the boy and his background the coach will be able to make a better athlete. The major effort should be to make all boys feel they belong, and to make them feel they are good and they are supposed to be good. Ideally, the boy will accomplish this when he can be like one of the sport's world's great "old pros," Archie Moore. In a fight in Canada, Archie found himself on the canvas. His immediate thought he reported later was, "this can't be me!" Hopefully, whenever your boys find themselves on their backs they will have a built in monitor of astonishment which will signal them, "this can't be me." Then they'll get up and go on to win.

REFERENCES

1. West, L. J.: Emotional Aspects of Competitive Sports, preseted at the Postgraduate course on Health and Injuries of the Athlete, April 23, 1960.

2. Riesman, D.: Individualism Reconsidered, Free Press, Glucoe, Illinois, 1954, pp. 529.

3. Powers, E. and Witmer, H., editors: An Experiment in the Prevention of Delinquency, The Cambridge-Someville Youth Study. Columbia University Press, New York, 1951, pp. 649.

800 N.E. 13th, Oklahoma City, Oklahoma

Oklahoma Certificates Mailed Sans Board Secretary's Signature

The final word on the challenge to pharmacy's professional status in Oklahoma has not yet been heard. William J. Vickers, Secretary of the Oklahoma Board of Pharmacy, has refused to sign the 127 assistant pharmacist certificates even though the other four members of the board did sign them. The certificates have been mailed without Mr. Vickers' signature.

"I could not conscientiously . . . " sign the certificates, Mr. Vickers said. The cheating in the August examination session, he states, was a factor in his refusal to sign the certificates. Mr. Vickers does not know whether the certificates are invalidated because he did not sign them, but he points out that he has signed all Registered Pharmacist licenses issued while he has been in office.

The rhubarb erupted when the Supreme Court of Oklahoma issued a mandamus directing the Oklahoma Board of Pharmacy to conduct a licensure examination for all persons over 18 years of age having two years of practical experience in compounding and dispensing physicians' prescriptions. Under an 1897 law, enacted while the area was still a territory, such licensing of assistant pharmacists was permitted. While the court order specified that 107 applicants be examined, the Oklahoma Board of Pharmacy actually examined 210 in an initial test, then followed it up with an examination of 250. Forty-one passed the first test and eighty-five the second.

Efforts to achieve a rehearing on the court ruling were defeated. Subsequently, a suit was brought to test the validity and constitutionality of the 1897 law.

Doctor William S. Apple, Secretary of the American Pharmaceutical Association, has commended Mr. Vickers on his stand against the pressure of the board members and has given his whole-hearted support to the Secretary of the Oklahoma board. Doctor Apple stated: "Mr. Vickers' stand on this issue is definitely in the best interest of the health and welfare of Oklahoma's citizens."

A group of obese captive females maintained continuous loss of weight over a six-month period without diet restriction.

WEIGHT LOSS WITHOUT DIET WORRY

Use of Benzphetamine Hydrochloride (Didrex®)

AUSTIN R. STOUGH, M.D.

Austin R. Stough, M.D., graduated from the University of Tennessee School of Medicine in 1936 and is now in general practice in McAlester.

Doctor Stough is a member of the Southwest Section of the American Urological Society.

THE PROBLEM of obesity is currently the most important one in the field of clinical nutrition. It is generally accepted that its prevention or control should depend on four aspects of total management: diet, exercise, plus the support of encouragement from the physician, and anorexigenic drugs. In practice the last two are used in an effort to help change long standing habits involving excessive caloric intake and insufficient energy expenditure.

Drugs used as one facet of the total management of obesity should have several attributes. They should effectively suppress the desire for excessive food, at least in the great majority of obese patients. This suppression should be prompt in onset and should be persistent over weeks and months, giving the patient optimal opportunity to change permanently his dietary habit pattern. It should, on the other hand, have no or minimal undesirable side effects. It is the purpose of this paper to report a study of these variables during the use of placebo and benzphetamine hydrochloride* in obese female volunteers. Dosage titrations in male and female subjects will also be described and the literature[1-5] reviewed.

Materials and Methods

A. *Efficacy Determinations*

Forty adult obese women were randomly divided into two equal groups. Half were given placebo tablets, one three times daily before meals, for six weeks. The other 20 received 50 mg. tablets of benzphetamine on the same regimen. The two sets of tablets were identical in appearance and were code-labeled. Which was active drug was unknown to us at the time the study was begun.

The control group consisted of eight negresses and 12 white women. They ranged in age from 25 to 63 years (mean, 37.2) and there were four with hypertension (systolic pressure 150 mm. or more, diastolic of 90 mm. or more, or both). The 20 women given the drug were aged 22 to 77 years (mean 46.5). There were six negresses, one Indian and 13 white women. Seven in this group were hypertensive.

Pretreatment baseline determinations of body weight to the nearest half pound were established, as were "ideal" weights using the standards given in the 1959 Society of Actuaries report on "Build and Blood Pressure Studies." Blood pressure and pulse rate

*The Upjohn Company trade name for benzphetamine hydrochloride is Didrex®.

were recorded before drug administration was begun. Thereafter, pulse rates were checked daily, and blood pressures and body weight at weekly intervals. No dietary restrictions were imposed. At the end of this six-week trial, patients who had received benzphetamine were continued on the same regimen for varying periods, to a maximum of 30 weeks.

B. *Tolerance Studies*

The forty obese women already discussed were observed for side effects. We were familiar with the report by Simkin and Wallace[1] and did not expect to encounter much in the way of central nervous system stimulation. Nearly all the women given 150 mg. of drug daily, however, had moderate to severe difficulty getting to sleep the first few nights, as did a few receiving the placebo. In all cases this effect disappeared during the first week of treatment. (In fact, differences were so marked we were unable to avoid identifying the active drug almost from the outset of the experiment. We felt, however, that because of the objective nature of the endpoints—pulse rate, body weight, blood pressure — this knowledge should not influence final interpretation of the data.)

Because of the occurrence of sleeplessness in nearly all the women receiving the drug at the 150 mg. level, a titration was then set up designed to see if side effects were dose-size related and if a "split" could be seen between appetite suppression following doses of less than 150 mg. daily, and the incidence and severity of such side effects as central nervous system stimulation. These volunteers were selected to exclude any who may have taken amphetamine drugs in the recent past to rule out possible cross-tolerance. This program is summarized in the following tabulation:

Group	Subject No.	Sex	Code-Labeled	Dosage Per Day
I	1-10	M	Placebo	½ tablet, t.i.d.
II	11-20	M	Drug	½ tablet (25 mg.) t.i.d.
III	21-30	M	Placebo	1 tablet t.i.d.
IV	31-40	M	Drug	1 tablet (50 mg.) t.i.d.
V	41-50	F	Drug	1 tablet (50 mg.) daily
VI	51-60	F	Placebo	1 tablet daily
VII	61-70	F	Drug	½ tablet (25 mg.) daily
VIII	71-80	F	Placebo	½ tablet daily

In all cases, tablets were given for seven days and each volunteer was interrogated daily for side effects.

In addition to serial pulse rates and blood pressure determinations done in the 40 obese women in the original trial, standard three-lead electrocardiographs were taken on the 18 subjects remaining in the study after 16 weeks' continuous daily administration of 150 mg. of benzphetamine. It was hoped this would round out the status of cardiovascular tolerance to the drug.

Results

A. *Efficacy Determinations*

In the group of 20 women given placebo only three failed to lose some weight during the double blind study of six weeks' duration (see table I). There was recorded a loss of 48.5 pounds and a gain of 7.5 pounds in the group for a net loss of 41.0, or a mean plus-or-minus standard error loss of 2.05 ± 0.47 pounds per subject. Confidence limits at the 95 per cent level extended from -1.13 to -2.97 pounds. There was a loss of only 0.34 pounds per patient per week.

In the drug-treated group (table II), all but one lost weight during the six weeks. There was recorded a total loss of 109.0 and a gain of 3.0 for a net loss of 106.0 pounds. There was a mean loss of 5.30 ± 0.90 pounds per woman. Confidence limits at the 98 per cent level extended from -3.21 to -7.39 pounds, clearly well above the placebo limits. The fact that in this group 0.88 pounds was lost per patient per week pointed up superiority of drug over placebo.

Another criterion frequently used in comparing efficacy of two agents is the performance index (P.I.). This is the actual weight loss divided by the ideal or desired weight loss times 100. It is a useful device for comparing results in different series. In the six-week trial, the P.I. for the placebo group was 4.1 ± 2.2 per cent, less than half that for the benzphetamine group, 11.9 ± 2.4 per cent.

This six-week comparison showed conclusively that benzphetamine effectively induced appetite suppression. It was unex-

No.	Actual Weight	Ideal Weight	Excess Pounds	Change per Week 1	2	3	4	5	6	Total Wt. Change	Percentage of Excess Loss (P.I.)
1	227.0	133.0	94.0	0	—2.0	—3.0	+1.0	0	+0.5	—3.5	3.7
2	134.0	113.0	21.0	0	—1.0	—2.5	+0.5	+0.5	+1.5	—1.0	4.8
3	140.0	119.0	21.0	0	+3.0	—0.5	+0.5	—1.5	—1.0	+0.5	—2.4
4	171.0	126.0	45.0	0	—2.0	—1.5	+3.5	—4.0	+2.0	—2.0	4.5
5	180.0	150.0	30.0	0	—4.0	+1.5	—0.5	—3.0	—2.5	—8.5	28.3
6	190.5	122.0	68.5	0	—4.5	—3.0	+2.0	0	+3.0	—2.5	3.7
7	182.0	147.0	35.0	0	+2.0	0	—2.0	0	0	0	0
8	302.0	151.0	151.0	0	—6.5	+5.5	+0.5	—1.5	0	—2.0	1.3
9	192.5	152.0	40.5	0	—2.5	0	0	0	0	—2.5	6.2
10	194.0	157.0	37.0	0	—1.5	0	—0.5	—1.0	+1.0	—2.0	5.4
11	162.0	153.0	9.0	0	0	0	—2.0	0	+1.0	—1.0	11.1
12	187.5	122.0	65.5	0	—1.5	+4.0	—3.0	0	+1.0	+0.5	—0.8
13	175.5	152.0	23.5	+8.5	—2.0	—2.0	+2.0	0	0	+6.5	—27.6
14	168.0	129.0	39.0	0	+6.0	—5.0	—2.0	—3.0	—0.5	—4.5	11.5
15	178.0	129.0	49.0	0	—0.5	—1.5	+0.5	—2.5	+1.0	—3.0	6.1
16	151.5	119.0	32.5	0	—1.5	+1.5	—1.0	—1.0	—0.5	—2.5	7.8
17	209.0	119.0	90.0	0	—0.5	—2.5	+1.0	+1.0	+1.0	0	0
18	187.0	135.0	52.0	+0.5	—1.5	—1.0	+1.0	0	—2.0	—3.0	5.8
19	228.0	142.0	86.0	0	—5.0	—1.5	+1.5	+0.5	—1.5	—6.0	7.0
20	211.5	135.0	76.5	0	+0.5	—1.0	+1.0	—3.0	—2.0	—4.5	5.9
	TOTALS		1066.0	+9.0	—25.0	—12.5	+5.0	—18.5	+2.0	—41.0	4.1% ± 2.2

Table I. Six-Week Study Results, Placebo Group

pected that so little weight loss would be noted at the end of the first week during which the majority had complained of symptoms of central nervous system stimulation. It seemed from these data that appetite suppression might be an effect of the drug clearly separable from the stimulation for during the second week and thereafter, when

No.	Actual Weight	Ideal Weight	Excess Pounds	Change per Week 1	2	3	4	5	6	Total Wt. Change	Percentage of Excess Loss (P.I.)
21	162.0	136.0	26.0	0	—4.0	—2.5	+0.5	—3.0	+1.5	—7.5	28.8
22	232.0	147.0	85.0	0	—2.0	—2.0	+2.0	—2.0	—2.0	—8.0	9.4
23	211.0	126.0	85.0	0	—1.0	—0.5	—1.5	+1.0	—2.5	—4.5	5.3
24	204.0	133.0	71.0	0	0	0	—1.0	+1.0	—2.0	—2.0	2.8
25*	170.0	140.0	30.0	0	—4.0	—7.0	—2.5	+12.0	+1.5	0	0
26	179.0	139.0	40.0	0	—1.0	+0.5	—4.5	—1.0	—1.5	—7.5	18.7
27	186.0	130.0	56.0	0	+1.0	—4.0	0	—4.5	—1.0	—8.5	15.2
28*	222.5	144.0	78.5	0	—4.5	—4.0	+2.0	—1.5	+3.5	—4.5	5.8
29*	160.5	127.0	33.5	+2.0	—1.5	0	—3.0	0	—3.0	—5.5	16.6
30	205.0	139.0	66.0	0	—7.0	—2.0	—0.5	—1.5	—3.0	—14.0	21.2
31	167.5	142.0	25.5	0	—1.5	+1.0	+3.0	—5.5	—0.5	—3.5	14.0
32*	171.0	151.0	20.0	0	+2.0	+1.0	—1.0	+0.5	+1.5	+3.0	—13.0
33*	170.5	137.0	33.5	0	—3.0	—5.5	+1.0	+5.0	—5.0	—7.5	22.4
34*	300.0	122.0	178.0	0	—1.0	—3.0	+9.0	—8.0	—1.0	—4.0	0.2
35*	215.0	136.0	79.0	0	—2.0	0	+1.0	0	—1.0	—2.0	2.5
36	153.5	129.0	24.5	0	+3.5	—1.5	+1.5	—2.0	—1.5	0	0
37	156.0	142.0	14.0	0	—2.0	—2.0	+1.0	—2.0	+1.0	—4.0	28.6
38	186.0	165.0	21.0	—2.0	0	0	+1.0	—1.0	—4.0	—6.0	28.6
39	235.0	160.0	75.0	—2.0	—1.0	0	—2.0	—3.0	—2.0	—10.0	13.3
40	210.0	153.0	57.0	—4.0	—5.0	+3.0	—4.0	0	0	—10.0	17.5
	TOTALS		1098.5	—6.0	—34.0	—28.5	+2.0	—15.5	—21.0	—106.0 lb.	11.9% ± 2.4

*Hypertensive

Table II. Six-Week Study Results, Benzphetamine Group

side effects were absent, good weight loss was obtained in most instances.

The next question had to do with the *persistence* of effect. As may be seen in figure I, weight loss was seen at all but five of the weekly weighings. There was some aggregate gain at the end of the fourth, 19th and 20th weeks, and no change in weight at the end of the 22nd and 29th weeks. No weighing was done at the end of the 24th week. In the remaining 24 entries, net weight loss was noted. It was concluded from these data that appetite suppression associated with benzphetamine was not only evident within five to ten days of the start of treatment but was persistent and sustained as well for as long as 30 weeks.

The data in table II further document the persistence of the appetite suppressant effect of benzphetamine. Treating the data in terms of six-week periods it is apparent that there was a net progressive weight loss in each of the five periods. The performance index, calculated on the basis of individual P.I.'s, which was 11.9 ± 2.4 per cent at the end of the first six weeks increased each period to a final P.I. of 45.6 ± 7.3 per cent. For the entire study, mean weight loss was 18.90 ± 2.31 pounds (95 per cent confidence limits, -14.5 to -23.3 pounds). This average over-all loss per patient per week was 0.77 pounds. This was especially significant because no dietary restrictions were used.

B. *Tolerance Studies*

Results of the dosage titration clearly showed that undesirable side effects were dose-size related and that there was a "split" in that well tolerated dosages still suppressed appetite. In group IV, the ten men given 50 mg. of drug three times daily, all complained of difficulty in getting to sleep during one or more of the first five nights of the trial. Six complained of polyuria, two each of constipation and loss of taste. One reported increased appetite. There were no complaints after the fifth night. In group II, the ten men given 25 mg. three times daily, the following side effects were noted: insomnia (4), euphoria (4), and one each reported nausea, dizziness, dry mouth and nervousness. Again, no side effects were reported during interviews on the sixth and sev-

No.	Excess Pounds	Weight Changes per Six Week Period[1] 1	2	3	4	5	Total Wt. Change	No. Weeks in Study	Lb. Lost per Week	Percentage of Excess Lost (P.I.)
21	26.0	—7.5	—12.5	—4.0	—2.0	—2.0	—28.0	27	1.04	108.0
22	85.0	—8.0	—11.0	—8.0			—27.0	16	1.69	31.8
23	85.0	—4.5	—2.5	—8.0	—9.0	+3.0	—21.0	27	0.78	24.7
24	71.0	—2.0	—2.0	—4.0	—1.0		—9.0	18	0.50	12.7
25*	30.0	0	—6.0	—4.0	—5.0	0	—15.0	27	0.56	50.0
26	40.0	—7.5	—0.5	—1.0	—2.0	0	—11.0	27	0.41	27.5
27	56.0	—8.5	—8.5	—3.0	+8.0		—12.0	19	0.63	21.4
28*	78.5	—4.5	—5.5	—5.0	0	—3.0	—18.0	27	0.67	22.9
29*	33.5	—5.5	—8.0	—7.0	—8.0	—7.0	—35.5	27	1.31	106.0
30	66.0	—14.0	—13.0	—6.0	—5.0	—6.0	—44.0	27	1.63	66.7
31	25.5	—3.5	—1.0	—2.0	+2.0	0	—4.5	27	0.17	17.6
32*	20.0	+3.0	—9.0	—6.0	+3.0	0	—9.0	27	0.33	45.0
33*	33.5	—7.5	—6.0	—7.0			—20.5	13	1.57	61.2
34*	178.0	—4.0	—15.0	—6.0	+5.0	—5.0	—25.0	27	0.93	14.0
35*	79.0	—2.0	—3.0	—4.0	—1.0	—5.0	—15.0	27	0.56	20.3
36	24.5	0	—0.5	—5.0	+2.0	—1.0	—9.0	27	0.33	36.7
37	14.0	—4.0	—7.0	—1.0	+2.0		—10.0	22	0.46	71.5
38	21.0	—6.0	—2.5	—10.0	—2.0	—4.0	—24.5	30	0.82	116.6
39	75.0	—10.0	—7.0	—5.0	—5.0	—3.0	—30.0	30	1.00	40.0
40	57.0	—10.0					—10.0	6	1.66	17.5
	1098.5	—106.0	109.5	—96.0	—18.0	—33.0	—378.0 lb.	478	0.79	45.6% ± 7.3

Table III. Thirty-Week Benzphetamine Study Results

*Hypertensive

[1]After first six weeks subjects dropped out from time to time; see Figure I for numbers of patients in study, by weeks.

enth days. The ten men in group III, who received one placebo before each meal, complained of dizziness (2), insomnia (1) and pain in the shoulder (1). In the remaining groups which were given placebo, 50 mg. of drug once each morning (group V) or 25 mg. once daily (group VIII) there were no complaints whatever. The only prominent and consistent effect reported in groups V and VII toward the end of the week was appetite suppression, especially during the evening meal. This qualitatively resembled that reported in the original double blind study and in groups II and IV of the titration. The subjects would be as hungry as usual at meal time but after eating less than they previously had they would feel satisfied. It required less food than previously to give them a "full" feeling.

Results of the serial observations concerning cardiovascular tolerance were of interest. No significant variations in pulse rate were noted. The serial blood pressure data were analyzed in detail. In the six-week placebo group of 20 women, the final mean systolic pressure differed from the pretreatment value by -3.60 ± 3.07 mm. Hg. The 95 per cent confidence limits were +2.42 to -9.62 mm. The mean diastolic pressure was also unchanged: +0.60 ± 2.06. In the 20-woman group given benzphetamine, somewhat lower values were found. Analysis of the 20 final blood pressure determinations showed that the mean systolic value was -10.80 ± 3.09 mm., with a 95 per cent confidence interval extending from -4.75 to -16.85. Mean diastolic pressure was -3.40 ± 1.89, the interval being from +0.31 to -7.11 mm. Hg. Since systolic and diastolic limits overlapped, it was concluded that there were no significant differences between control and treatment groups.

Separate analysis of the group of seven hypertensive women given 150 mg. of benzphetamine daily for a total of 175 weeks showed that diastolic pressure was unchanged (mean -3.40 ± 2.81; limits, +2.11 to -8.91). The systolic value, however, had clearly and significantly fallen below the placebo control values. Mean systolic pressure reduction in this group was -22.00 ± 4.95. The 95 per cent confidence limits extended from -12.30 to -31.70, well below the lower control limit of -9.26 mm. Hg. It should be pointed out that these seven women enjoyed a total weight loss of 138.0 pounds during their participation in the study, a fact which almost certainly favorably influenced their blood pressure values.

The set of 18 electrocardiographs taken at the end of 16 weeks' treatment were read by a cardiologist unacquainted with the subjects or the nature of the trial. Two were interpreted as borderline tracings because of premature beats in one, evidence of posterior myocardial ischemia in the other. Three weeks later, and while still taking benzphetamine, 150 mg. daily, tracings were repeated and found to be unchanged. Inquiry showed the former subject was a 60-year-old woman with a history of periodic thyroid upsets. She was, incidentally, one of the subjects in this study to complete the full 30 weeks' trial without incident. Similarly the subject with ischemic changes on her tracing was a woman of 58 with known cardiac difficulties in the past. She completed 27 weeks of the trial also without incident.

Discussion

The data on *efficacy* of benzphetamine reported here resemble those already in the literature. Simkin and Wallace,[1] for example, reporting on patients given either 25 or 50 mg. three times daily for eight weeks or more, found a mean total loss of 16.01 ± 2.37 pounds per patient. A recent study by Poindexter,[2] in which a series of drugs was used for two-week "periods," showed that mean weight loss in 36 patients given benzphetamine for a total of 252 weeks was 18.00 ± 1.82 pounds. The comparable figures for the study reported here, in patients treated somewhat longer (average, 23.9 weeks), were 18.90 ± 2.31 pounds. All of these results were distinctly less than those reported by Schapiro and Bogran.[3] They conducted a 20-week trial using a flexible dosage scheme involving "from 75 to 300 mg. daily in divided doses."[6] Nine men given benzphetamine lost an average of 22.7 ± 2.0 pounds during this time and 12 women similarly treated lost 30.4 ± 3.4 pounds. These and other key data from the literature have been presented in table IV which sum-

Investigators	No. Pts.	Mean Duration of Rx (wks)	Mean Actual Wt. Change (lbs.)	Mean Loss/Pt./ Week (lbs.)	Mean P.I. (%)
Simkin-Wallace[1]					
Drug	18	17	—16.01 ± 2.37	—0.90 ± 1.2	32 ± 3.81
Placebo	21	16	—4.36 ± 1.84	—0.28 ± 0.13	9 ± 3.82
Poindexter[2]					
Drug first	17	11.6	—18.7 } 18.00 ± 1.82	—1.74	33.6
Drug second or third	19	9.1	—17.5 }	—1.93	
Placebo first	26	7.5	—6.7	—0.90	8.7
Placebo second or third	10	5.2	—0.2	—0.04	
Schapiro-Bogran[3]					
Drug, males	9	20.0	—22.7 ± 2.0	—1.14 ± 0.10	92.0 ± 8.2
Drug, females	12	20.0	—30.4 ± 3.4	—1.52 ± 0.17	90.4 ± 5.1
Placebo, males	12	20.0	+ 3.0 ± 1.4	+0.15 ± 0.7	—13.5 ± 7.1
Placebo, females	13	20.0	+ 1.2 ± 1.4	+0.06 ± 0.07	— 4.6 ± 3.9
Oster-Medlar[4]					
Drug	24	4.0	— 7.5	—1.75	17.0
Placebo	25	4.0	0	0	0
Rhoades[5]					
50 mg. Drug daily	14	4.15	—5.70	—1.34	44.3
100 mg. Drug daily	30	5.15	—8.44	—1.64	60.7
150 mg. Drug daily	6	3.84	—6.00	—1.57	43.5
This study 30-Wk	20	23.9	—18.90 ± 2.31	—0.79	45.6 ± 7.3
6-Wk Drug	20	6.0	— 5.30 ± 0.90	—0.88	11.9 ± 2.4
6-Wk Placebo	20	6.0	— 2.05 ± 0.47	—0.34	4.1 ± 2.2

Table IV. Summary of Reported Experience with Benzphetamine in the Control of Obesity

marizes the experience of 169 patients treated with benzphetamine for 1,939 weeks. Although there is some variation from one study to another, all support the thesis that benzphetamine effectively suppresses appetite in the majority of obese patients.

From the standpoint of *persistence* of action, the present study is the most prolonged thus far reported. Treatment was given for from six to 30 weeks, the average duration being 23.9. Figure I clearly shows that weight loss was sustained, confirming and extending the reported experiences of Simkin and Wallace,[1] Schapiro and Bogran,[3] and Poindexter.[2] Prolonged, sustained appetite suppression is an essential attribute in this class of drugs. Since obesity is controlled rather than cured, and because control should involve an attempt to change permanently the obese patient's dietary habits, the knowledge that drug activity may last for half a year or perhaps longer is reassuring. Such a time span should give most patients seriously interested in reducing to their ideal weights ample opportunity to modify their eating habits.

Long-term *tolerance* to the drug was excellent. In this study a peculiar dissociation was noted in that, during the first few days, when symptoms referable to central nervous system stimulation were troublesome, appetite suppression did not appear to be effective. Only three of the 20 patients lost weight by the end of the first study-week and one gained two pounds. During the second week and thereafter the drug appeared to "take hold" and by the end of six weeks 17 had lost weight. The weight loss, therefore, occurred after the undesirable side effects had permanently subsided. And this occurred during a fixed dosage regimen of 50 mg. of drug three times daily, without dietary restriction.

The tolerance titration clearly showed that early side effects were dose-size related. Subjects given dummy tablets, 25 mg. or 50 mg. single mid-morning doses of benzpheta-

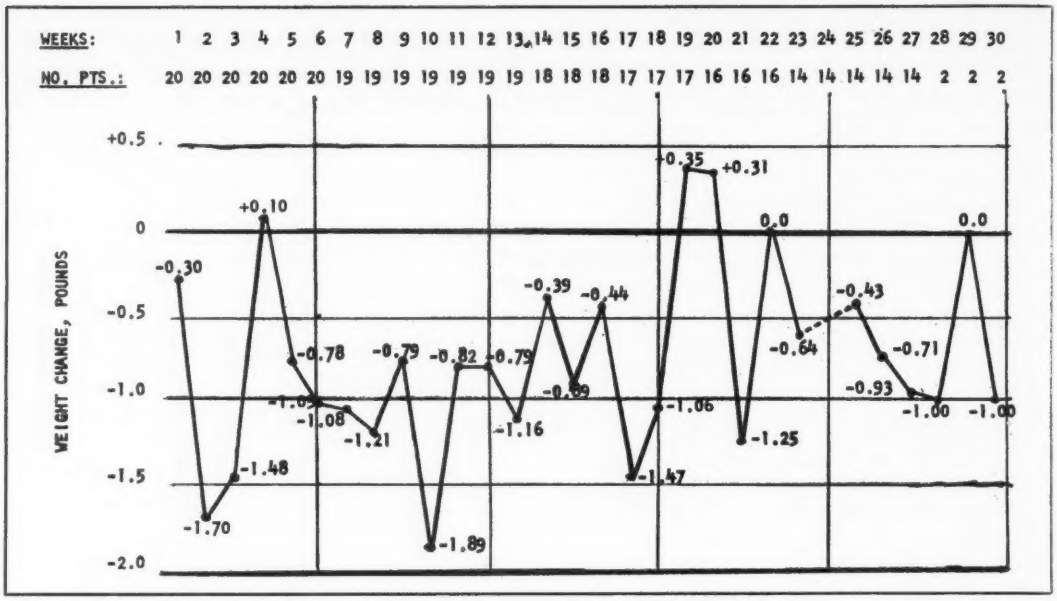


Figure 1. Mean Weight changes, by weeks, in patients continuously receiving 50 mg. of benzphetamine hydrochloride three times daily before meals.

mine had no complaints. Those given these doses of the drug experienced some degree of appetite suppression during the one-week trial. That the arbitrarily selected dosage of 50 mg. three times daily before meals may be excessive and unnecessary was also suggested by Oster and Medlar.[4] Using groups of ten men each they compared side effects and weight loss during a one-week trial of 50 or 25 mg. of drug and one-half and a whole matching placebo tablet. Appetite suppression was noted in all men given 50 mg. three times daily before meals and in nine of ten given 25 mg. doses. Other side effects were markedly reduced with the lower dosage. The group given 150 mg. daily lost a net total of 22.5 pounds during the week; none gained weight. The ten men given 75 mg. daily lost a 31.5 pound total. One man gained four pounds so the net loss for the group was 27.5 pounds. They pointed out that in practice 25 mg. three times daily might be fully as effective as larger doses. The titration here reported suggested that even smaller amounts, 25 mg. or 50 mg. given only once daily, hold promise of effective appetite suppression without troublesome side effects. According to Poindexter,[2] the drug is to be announced with the recommendation that single mid-morning doses be used to initiate treatment. Thereafter dosage should be varied according to the needs of the individual patient. On the basis of our experience, we concur with this recommendation for benzphetamine is a potent amphetamine-type drug the dosage of which, like digitalis or insulin, for example, ought to be evaluated and readjusted from time to time to fill each patient's particular needs. That such a flexible method may be more efficacious than rigid regimens is suggested by the remarkable results reported by Schapiro and Bogran[3] (see table IV) who deliberately used such an approach.

Benzphetamine has now been used successfully to help reduce obese patients with hypertension.[2-5] In the study reported here it was possible to show a significant reduction in systolic pressure in this group. This tendency was also noted by Poindexter[2] who explained it on the basis of increased familiarity of patients with clinic personnel and procedures. Rhoades[5] felt the return of elevated pressures toward normal could best be attributed to the loss of body fat as weight reduction was accomplished. It is likely that both explanations probably apply to some degree. It is noteworthy, from the standpoint of safety of the drug, that two

of Rhoades' three obese pregnant women were hypertensive. All enjoyed good weight control and delivered healthy babies. Mention should also be made of the important observation of Oster and Medlar[4] that even 200 mg. single doses of benzphetamine had no appreciable effect on fasting blood sugar curves indicating that the drug may safely be used in obese diabetics. Finally, it should be pointed out that even after having taken 150 mg. of benzphetamine daily for as long as 30 weeks, there was no evidence of mental disturbance or addiction as has been reported with other appetite suppressant drugs.[6,7] Administration was halted in all cases without incident.

Altogether, in the light of accumulated experience, one can conclude that benzphetamine has considerable promise as a safe, efficacious, persistently effective appetite suppressant. Used together with exercise, dietary discretion and encouragement from the physician, it should facilitate the change in eating habits so essential to permanent control of obesity.

Summary

Studies were done to evaluate *efficacy* of benzphetamine hydrochloride (Didrex®) as an appetite suppressant. A six-week comparison of placebo and 50 mg. drug tablets given three times daily before meals to groups of 20 obese women yielded a mean weight loss in the placebo group of 2.05 ± 0.47 pounds. The 20 women given benzphetamine lost an average of 5.30 ± 0.90 pounds (superior at the 98 per cent confidence level).

To study the *persistence* of the appetite suppressive effect, patients in the treatment group were continued for up to 24 additional weeks on the same regimen. Weight loss continued nicely with a final mean total loss of 18.90 ± 2.31 pounds. No dietary restrictions were imposed during these studies.

Tolerance was excellent except for transitory troublesome central nervous system stimulation during the first five or less days. There were no effects on pulse rate or on electrocardiographs taken on 18 subjects after 16 weeks' treatment with 150 mg. of benzphetamine daily. Blood pressure in the 20 women was unchanged throughout but a group of seven hypertensive subjects had a mean reduction of 22.00 ± 4.95 mm. Hg. in systolic pressure (significant at the 98 per cent level). During 25.0 weeks of treatment, on the average, they lost a total of 138 pounds which probably best explains the reduction.

A *dosage titration* was carried out and it was found that single 25 and 50 mg. doses, given in mid-morning, produced no side effects whatever. At 75 mg. daily, given in three 25 mg. does, central nervous system stimulation was observed in several subjects. At 150 mg. daily in divided doses, stimulation was seen in all. It was concluded that optimal results should follow initiation of treatment with 25 or 50 mg. once daily, in mid-morning, with dosage adjustments as frequently as indicated thereafter.

Altogether, after reviewing these results and the data reported in the literature by others, one can conclude that benzphetamine has considerable promise as a safe, efficacious, persistently effective appetite suppressant. It may be especially useful in obese patients who are also pregnant, diabetic or hypertensive. Used together with exercise, dietary discretion and encouragement from the physician, it should facilitate the change in eating habits so essential to permanent control of obesity.

REFERENCES

1. Simkin, B. and Wallace, L.: A Controlled Clinical Trial of Benzphetamine (Didrex®). Current Therapeutic Research 2: 33-38, 1960.

2. Poindexter, A.: Appetite Suppressant Drugs: A controlled clinical comparison of benzphetamine (Didrex®), phenmetrazine, d-amphetamine and placebo. Current Therapeutic Research, 2: 354-363 (August) 1960.

3. Schapiro, M. M. and Bogran, N.: Dietless Weight Loss With Benzphetamine (Didrex®): A controlled comparison with phenmetrazine and placebo. Current Therapeutic Research 2: 333-345, 1960.

4. Oster, H. and Medlar, R.: A Clinical Pharmacologic Study of Benzphetamine (Didrex®), A New Appetite Suppressant. Arizona Medicine, 17: 398-404, 1960.

5. Rhoades, F. P.: Obesity Control with Benzphetamine (Didrex®), presented at the Postconvention Bahamas Conference, Nassau, Bahamas, June 21, 1960.

6. Beamish, P. and Kiloh, L. G.: Psychoses Due to Amphetamine Consumption. Journal of Mental Science, 106: 337-343 (January) 1960.

7. Evans, J.: Psychosis and Addiction to Phenmetrazine (Preludin). Lancet, 2: 151-155 (August 22) 1959.

8. Schapiro, M. M.: Personal communication.

100 East Grand, McAlester, Oklahoma

MEDICAL CENTER

Message from the Dean

Events in medicine in our generation have demonstrated that practice does not make perfect in every sense. Improvement of medical practice results chiefly from instruction by inspired practicing physicians and institutional teachers who continually investigate new possibilities. The maintenance of medical heritage is dependent upon them.

Those who receive the benefits of good professional teaching have little basis for evaluating the methods employed. They are totally dependent upon the integrity, skill and wisdom of the instructor.

The success of a medical teacher requires a continuing interest in his medical school and in the university as a whole, and his active influence outside the university for the maintenance of the best in medical education. The greatest asset for accomplishing this end is to remain a student at heart, and to continue to learn along with the developing school. It involves the understanding of the students as the coming generation, who will probably live in a day so different from ours that we cannot picture it accurately.

He is best suited for teaching who takes such pleasure in explaining things that he will do this in preference to anything else. This he can do to the best advantage if he has a kindly sense of humor, an ability to see more than one asepct of a thing at a time, and to relate a new idea to those already present in the student's mind.

A university appointment carries responsibility and should be offered only on the basis of professional and teaching competence. Those accepting appointments must be willing to fulfill their assignments with fidelity. The assignments should be reasonable ones, which the faculty member can carry out diligently and effectively.

Every now and then someone passes the word that a medical faculty is a clique. This statement is true; the clique consists of faithful faculty members who spend time and energy on certain tasks and who believe that the more they put into their medical school the more they get out of it. It is not difficult for others, capable and qualified, to join such a clique. The passport is constructive interest, helpful suggestion and acceptance of educational responsibility.

When the teacher in a medical school does his work well, it makes no real difference to what extent he earns his living from salaries, fees, patient services, the Internal Revenue Department or the New York Stock Exchange. These are things that are Caesar's.

The many hours which our diligent teachers have spent, in the library, the laboratory, the classroom, the teaching clinic and in study of disease at the bedside, have brought them lasting satisfaction and deserved respect. Such good teachers have guided many students into successful careers, and thus, they have not labored for their days alone.

Mark R Everett

Serum glycoprotein concentrations are elevated in many pathological conditions. The significance of such elevations and the possible mechanisms involved are discussed.

Studies of the Blood Serum Glycoproteins in Disease and After Injury*

J. W. KEYSER**
M.Sc., Ph.D. (London), F.R.I.C.

James William Keyser, B.Sc., Ph.D., received his B.Sc. degree from Chelsea Polytechnic, London, in 1942 and his Ph.D. was obtained for work completed at the Welsh National School of Medicine where he is now Senior Lecturer in Chemical Pathology.

Doctor Keyser is a member of the Biochemical Society, the Chemical Society and the Association of Clinical Biochemists, United Kingdom.

IT HAS been known for many years that the plasma proteins contain a quantity of more or less firmly bound carbohydrate. Most of this is found in the α- and β-globulins. Athough the precise structure of the carbohydrates occurring in the various protein fractions has not been established and the plasma contains a large number of different glycoproteins, six regular carbohydrate components have been identified. These are the hexoses, galactose and mannose; the hexosamines, glucosamine and galactosamine; the methyl pentose, fusoce; and the amino sugar acid ,sialic acid. The chemistry of the plasma glycoproteins has recently been reviewed by Winzler.[1]

The terminology in this field is somewhat confusing, though the meaning of a particular term is usually apparent from the context in which it is used. The term *serum glycoprotein* is generally used to indicate any serum protein containing significant amounts of carbohydrate. The serum total glycoproteins may be estimated by measuring the hexose content of the total proteins after precipitation with ethyl alcohol. About one-tenth of the total serum protein-bound carbohydrate occurs in the *seromucoid* fraction —a perchloric-acid-soluble fraction often called *serum mucoprotein*. Seromucoid, which is of course included in the determination of total glycoprotein, is separated (though not quantitatively) by precipitation of the other proteins with perchloric acid and filtration; it can then itself be precipitated with phosphotungstic acid, after which its hexose, hexosamine or protein content can be estimated.[2] From its method of estimation the seromucoid fraction would appear to correspond to the polypeptide-like substances occurring in trichloracetic acid filtrates of serum (Hahn, 1921[3]; Wolff, 1921[4]) and precipitable therefrom by tungstic or phosphotungstic acid.

The distribution of carbohydrate among the electrophoretically separated protein fractions can be estimated approximately by the periodic acid-Schiff procedure of Köiw and Grönwall[5] (see figure 6).

Normal Values

These have been discussed in detail by Shetlar and his collaborators.[6] The present writer's observations are summarized in

*Based on a seminar lecture given at the University of Oklahoma School of Medicine on April 27th, 1959.
**Senior Lecturer in Chemical Pathology, The Welsh National School of Medicine, Cardiff, Great Britain.

table I and are essentially in agreement with those of other investigators.

	Total protein-bound hexose*			Seromucoid-bound hexose*		
	Observed range	Mean	S.d.**	Observed range	Mean	S.d.**
Series 1	102-139	119	12	10.0-13.0	11.9	1.2
Series 2	106-130	116	13	9.0-13.5	11.9	2.1

*Mg. per 100 ml. serum
**Standard deviation

Series 1 consisted of 18 people, mostly males.
Series 2 consisted of 6 women, about 8 observations being made in each case.

Table I. Normal values for human serum protein-bound hexose (orcinol method).

Role of the Glycoproteins

The place that the serum glycoproteins have in body function is, for the most part, obscure. Werner[7] has suggested that the increases in the glycoprotein content of serum that occur in conditions of protein loss might indicate a rôle in the formation of serum proteins, the carbohydrate-rich fractions of the α- and β-globulins being perhaps intermediate stages in the synthesis of other proteins. According to Jayle,[8] the carbohydrate-rich protein haptoglobin probably participates in the metabolism of haemaglobin and might even function in the defence of the body by combining with toxic substances of endogenous or exogenous origin. Apart from these speculations, certain plasma proteins with specific physiologic functions are known to be glycoproteins (e.g., prothrombin), but these form only a minute fraction of the total glycoproteins of the plasma.

Changes in Disease

Although the part played by these proteins is obscure, alterations in the plasma level are known to occur in many conditions, such as carcinoma, pneumonia and tuberculosis. The reader is referred to recent reviews by Shetlar[9] and by Stary.[10,11] It has been the writer's object to try and elucidate the significance of these changes. If few of the many other workers in this field receive mention in this paper it is only because it has been the writer's aim to present, mainly, a brief outline of work with which he has been personally associated.

The writer's interest in the subject arose out of a paper by Seibert and her colleagues,[12] who applied Cohen's tryptophan-perchloric acid reaction[13] to blood serum and in 1948 reported that serum from patients with tuberculosis or carcinoma contained an increased amount of reacting substance. They attributed this to an unidentified polysaccharide. Earlier work by the same group had led to the suggestion[14] that increases in the serum concentration of "polysaccharide" (i.e., glycoproteins) might be associated with tissue destruction. It seemed that Seibert's hypothesis might be tested by applying the tryptophan-perchloric acid test to serum from patients suffering from burns, in whom of course destruction of tissue is known to have occurred. Figure 1 shows the results obtained in three burns cases.[15] Clearly, the injury resulted in an increase in reacting substance. Rises of from 30 to 150 per cent were found (seven patients) with the peak value occurring several days after the injury. Spectrophotometric examination of the coloured reaction mixture showed that serum from burned patients gave the same absorption peaks as did serum from normal, healthy people and from patients with carcinoma. The finding of an increased reaction after burning is at least consistent with Seibert's hypothesis, though of course factors other than tissue destruction might have been responsible for the rise.

The tryptophan-perchloric acid reaction has since been shown[16] to depend on the presence of sialic acid (acetylneuraminic acid) in the serum proteins, but in 1949 when this work on burns was done the nature of the reacting substance was unknown. It was

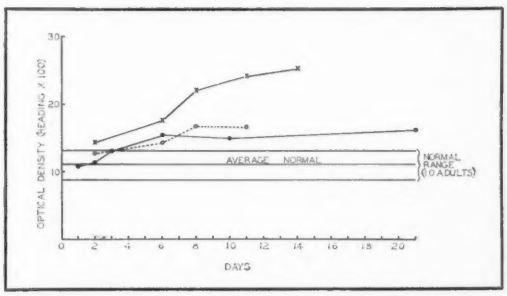


Figure 1. Rise in tryptophan-perchloric acid-reacting substance in the serum after burning. Results in three typical cases are shown. Results in three other cases are omitted for clarity. Day 1 is the day of the burn. (J. Clin. Path. 3: 106, 1950.)

therefore considered desirable to repeat the work, employing a method believed to be more specific for protein-bound carbohydrate (hexose). The orcinol method was chosen, and application of the test to serum from patients with burns and fractures showed that substantial increases occurred after injury, both in total serum glycoproteins and in the seromucoid fraction. Both fractions reached a peak concentration, usually several days after the injury.[17] These findings again are at least consistent with the "tissue destruction" hypothesis.

The writer was not aware, at the time of this investigation, of the work of Shetlar and his colleagues,[18] at the University of Oklahoma, who had in 1948 found that various injurious stimuli (resulting from, e.g., the injection of turpentine or talc) produced in animals substantial increases in serum protein-bound carbohydrate. They interpreted these increases as being associated with healing and proliferation, however, rather than with destruction of tissue. In a later paper Shetlar[19] suggested, on the basis of salt fractionation, that elevation of α-globulin-bound hexose was associated with fever or tissue destruction, and elevation of albumin-bound hexose with proliferative processes.

It seemed of interest and importance to try and choose between the "tissue destruction" and "tissue proliferation" hypotheses.

Effect of Nitrogen Mustard and Irradiation Therapy

At the suggestion of Professor J. Gough the effect of nitrogen mustard or irradiation therapy on the level of serum glycoproteins in patients with tumours was next investigated.[20] These patients had elevated levels of glycoproteins, and as a result of serial estimations it was found that treatment that resulted in clinical improvement was generally associated with a fall in this level towards normal. Changes in seromucoid levels paralleled those in serum total glycoproteins. Although these findings might appear to favour the view that a rise in serum total glycoprotein and seromucoid is connected in some way with tissue proliferation, it could be objected that the fall in glycoprotein and seromucoid resulting from treatment might have been a secondary effect due to inhibition of a break-down process occurring in and around the tumour and depending on tumour growth. Such a break-down process might be expected to be greatest when the tumour is growing rapidly, and to be retarded when the tumour is subjected to an inhibitory influence. It must be admitted, therefore, that these observations do not decisively favour either of the hypotheses under investigation.

In this connexion the work of Catchpole and Gersh is of interest. Working with mice, Catchpole[21] found that the connective tissue bordering on tumours contained increased amounts of water-soluble mucoproteins; and histochemical studies suggest that in the region of tumours a process of depolymerization is taking place, whereby the components of the ground substance may become water soluble and so enter the general circulation as mucroproteins.[22] The existence of such a mechanism, if proved, might go far towards reconciling the "tissue destruction" and "tissue proliferation" hypotheses referred to above.

On the other hand it is possible that the increased concentration of seromucoid in the tissues surrounding tumours might be the result of inflammatory exudation of plasma

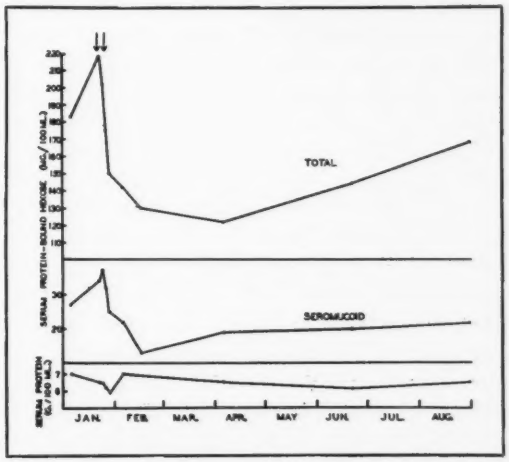


Figure 2. Effect of nitrogen mustard (di [2-chloroethyl] methylamine hydrochloride) on the serum level of protein-bound hexose in a patient with Hodgkin's disease.

The arrows indicate the beginning and end of the period of treatment (six 5-mg. doses). (Brit. J. Cancer 8: 238, 1954.)

rather than local liberation from the tissues.[23]

Figure 2 illustrates the rapidity with which changes in the serum level of glycoproteins can occur as a result of treatment.

Muscular Wasting

In collaboration with clinical colleagues the writer next studied a series of patients with muscular wasting (myopathies, motor neurone disease, etc.[24]). The object was to obtain states of tissue break-down uncomplicated, as far as could be seen, by regeneration. Patients were classified as either (a) actively wasting or (b) probably not actively wasting at the time of the observation, clinical assessment being made without knowledge of the chemical findings. A significant difference was found between the means for the two groups, in respect of both total glycoprotein and seromucoid hexose, the actively wasting patients usually having raised levels. This result suggested some connexion between a raised serum level of glycoproteins and break-down of tissue. Generally, patients with raised total glycoproteins showed an increase in seromucoid and albumin-bound hexose (26 per cent Na_2SO_4 fractionation) also.

Glycoproteins and Nitrogen Balance

The next step appeared to be to try and correlate elevation of glycoproteins with nitrogen metabolism in persons who had suffered physical injuries. As mentioned above, injury causes a rise in serum glycoprotein concentration; and it has been known for a long time that injured persons often show a substantial rise in urinary nitrogen output.[25-27] There appears to be, however, no correlation between elevation of glycoproteins and nitrogen catabolism:[24] sometimes the peak glycoprotein level is passed before the onset of the catabolic phase (figure 3), and sometimes the elevation persists after urinary nitrogen excretion* has returned to normal (figures 4 and 5). Generally, the

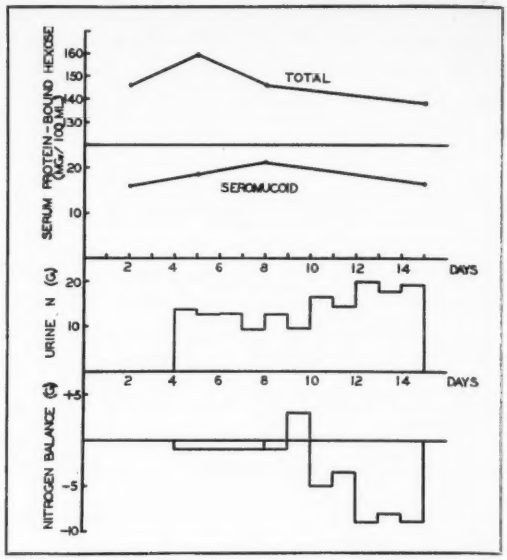


Figure 3. Serum total protein- and seromucoid-bound hexose, urine total nitrogen excretion and nitrogen balance in a woman, aged 37, with fractured tibia and fibula.

Day 1 is the day of injury.

concentrations of albumin- and seromucoid-bound hexose paralleled that of total protein-bound hexose.

In this type of case, at least, the rise in protein-bound carbohydrate cannot be attributed to tissue break-down as measured by urinary nitrogen excretion.

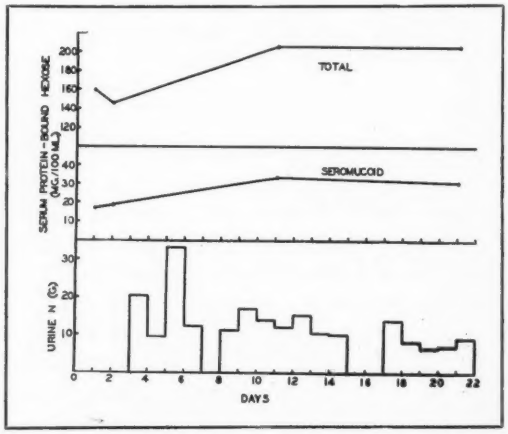


Figure 4. Serum total protein- and seromucoid-bound hexose and urine total nitrogen excretion in a man, aged 44, who sustained fracture of left tibia, lacerations and multiple abrasions. Transfusion of plasma on admission to hospital. Urine passed in 24-hr. period from day 5 to day 6 contained 1.5 g. of creatine.

Day 1 is the day of injury.

*It would seem that the "catabolic phase" is best demonstrated by the increase in urine nitrogen output rather than by the negative nitrogen balance, provided that the patient's nitrogen intake is reasonably constant over the relevant period and provided also that any increased output of nitrogen is not simply due to subsidence of an azotaemia. Determinations of serum non-protein nitrogen showed that this last source of error was not operative in our patients; nor could any rise in urinary nitrogen be attributed to food intake: in fact, the rise in urine nitrogen shown in figure 3 was associated with a slightly decreased food intake.

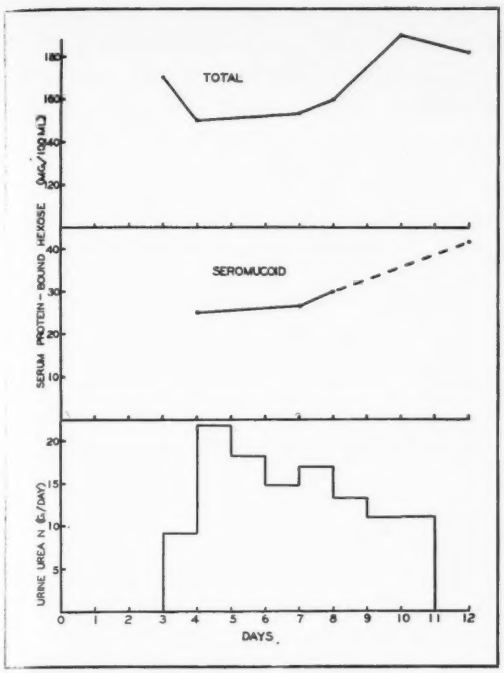


Figure 5. Serum total protein- and seromucoid-bound hexose and urine *urea* nitrogen excretion in a man, aged 67, with fracture dislocation of vertebra L1. Day 1 is the day of injury.

Histologic Studies

The conclusions drawn from many investigations in the past have depended on correlation of serum glycoprotein levels either with the clinical state of patients or with the gross appearances of experimentally induced conditions—e.g., in experiments with tumours, on the size of the tumour. Such procedures appear to be unsatisfactory, from the point of view of the present inquiry, since tissue formation and destruction commonly coexist in varying proportions both in inflammatory and in neoplastic states: microscopic study is necessary to determine the exact types of change and their extent. Doctor A. G. Heppleston and the writer therefore decided to investigate changes in the serum glycoprotein levels in an experimentally induced inflammatory process. Particulate silica given by intraperitoneal injection was adopted as the inflammatory stimulus on account of its well known fibrogenic capacity and because an acute reaction with necrosis is prominent in the early stages. Rabbits were given an intraperitoneal injection of silica and serial blood specimens were taken from the ear for chemical estimations. The animals of one series were killed at intervals to provide information about the state of the inflammatory reaction at any given time. Briefly, it was found that the elevation of protein-bound carbohydrate (both total and Na_2SO_4-separated-albumin-bound) closely paralleled the early acute inflammation induced in the peritoneal cavity by the silica and that the glycoprotein levels *fell* when silicotic fibrosis and macrophage response became prominent. The administration of cortisone did not materially affect the rise or fall in glycoprotein concentration, and the acute inflammatory reaction did not appear to be significantly modified by it. Fibrosis and macrophagocytosis were, however, considerably inhibited by cortisone.[28]

In these experiments, therefore, increase of serum glycoproteins can be correlated with acute inflammation but not with tissue formation.

Application of the periodic acid-Schiff procedure to the electrophoretically separated serum proteins (two rabbits) indicated that the rise in protein-bound carbohydrate observed after intraperitoneal injection of silica occurred mainly in a fraction that may perhaps be designated an α-globulin (figure 6). There was some increase in the other globulin carbohydrate fractions also. Injection of corticotrophin A_1 (see below) also led to an increase mainly, but not entirely, in the α-globulin region.

Tumour Growth

A raised level of total protein-bound carbohydrate in the serum is well recognised to occur in various forms of human carcinoma. It is known that tumour-bearing animals also may have elevated serum glycoproteins. From studies on rats bearing the Walker 256 carcinoma Shetlar, Erwin and Everett[29] suggested that the rise in the carbohydrate associated with the "albumin" fraction might be related to the growth of the tumour. Weimer and his colleagues[30] observed an increase only in the seromucoid fraction and a decline in the other serum glycoproteins of rats implanted with the Walker carcinoma. They considered that the

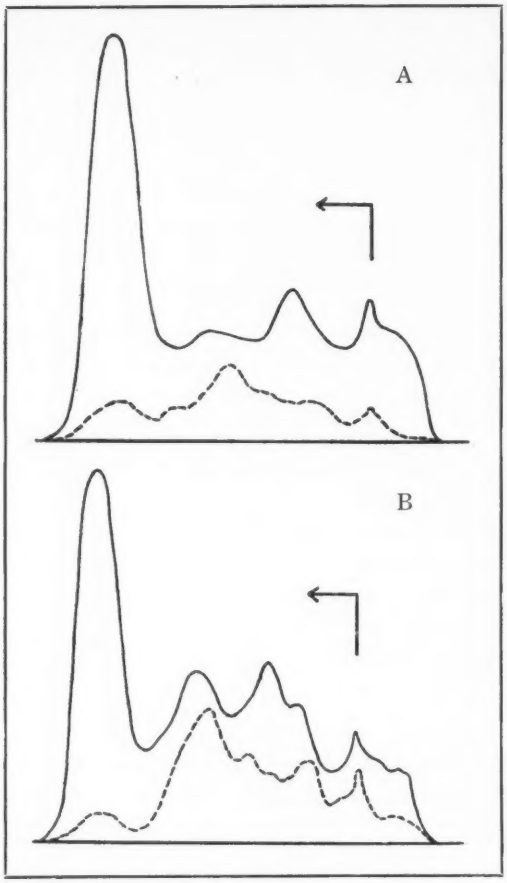


Figure 6. Serum protein and protein-bound carbohydrate in a rabbit (A) before and (B) 2 days after intraperitoneal injection of 2 g. of silica.

Patterns obtained by separating proteins electrophoretically on paper strips, staining and passing strips through photoelectric "scanner." Continuous line represents protein. Interrupted line represents carbohydrate (P.A.S. stain).

increase in the seromucoid might indicate a systemic response to tissue damage whilst the decreases in the other glycoproteins might be due to their utilization by the rapidly growing tumour. The serum carbohydrate levels have also been followed in rats bearing a transplanted sarcoma by Baldwin and Harries,[31] who found the rise in total glycoprotein to be largely a reflection of changes in the seromucoid fraction. They attributed the abnormal production of seromucoid to processes occurring during tissue proliferation rather than to elimination of tissue glycoproteins in consequence of degenerative changes in the tumour and surrounding tissue, but in this interpretation only the weight of the whole tumour was considered.

Disagreement thus exists as to which fractions of the serum proteins carry the raised amounts of carbohydrate, as well as on the parts played by tissue proliferation and destruction in producing the elevation. Although differences in technical methods may account for some of these divergences, another explanation may be found in the fact that in none of the above-mentioned experimental studies were the relative proportions of viable and necrotic tumour tissue assessed, the state of the tumours being judged solely by their size.

Doctor Heppleston and the writer therefore reinvestigated the relation of serum glycoprotein levels to tissue formation and destruction in rats bearing the Walker 256 carcinoma.[32] An assessment was made of the amounts of viable and necrotic tumour tissue present in relation to the size of the animal. Significant elevations were found in tumour-bearing animals in the amounts of hexose bound by serum total protein, by α_2-globulin (estimated by the Köiw-Grönwall procedure), by seromucoid and by the non-seromucoid fraction (i.e., total protein-bound carbohydrate minus seromucoid-bound carbohydrate). The results did not provide a clear distinction between the effects of tissue growth and tissue break-down. However, it can be stated that there was a lack of relationship between the elevation in either total protein-bound or α_2-globulin-bound hexose, on the one hand, and, on the other hand, the weight of the tumour or of its viable and necrotic portions expressed in relation to the weight of the whole animal. These findings suggest that the cause of the changes in serum glycoprotein levels may be connected with some property of the tumour that was not investigated, or may even lie outside the tumour.

In the light of the various investigations outlined above, it seems likely that elevations in serum glycoproteins, or in seromucoid, are not specifically related either to tissue break-down or to tissue proliferation.

Control of Plasma Glycoprotein Levels

Another problem that has interested the writer is the question of how changes in the

glycoprotein level in the blood are brought about. The possibility that an adrenal mechanism is involved was suggested by Kelley, Kirschvink and Ely in a brief abstract.[33] However, Weimer and Redlich-Moshin,[34] who injected ACTH and cortisone separately into guinea pigs, concluded that increased secretion of these hormones is not directly responsible for the elevations of total serum glycoproteins and seromucoid found in "stress"; and Shetlar and Shetlar,[35] who gave cortisone to rats, reached a similar conclusion, since extremely large doses were required to raise the seromucoid level significantly and, moreover, such doses were found to *depress* the level of serum total glycoproteins.

The writer's experiments indicated that a single injection of 5 International Units of ACTH (lyophilized) into rabbits produces a significant rise in seromucoid and total serum glycoproteins, saline by itself having no measurable effect. However, although cortisol in very large doses was also found to raise the seromucoid level it had no effect on the level of total glycoproteins; furthermore, injection of corticosterone or deoxycorticosterone had no effect, nor did massive doses of an adrenaline-free Swingle-Pfiffner extract of adrenal gland.[36]

Although the results obtained with ACTH are not what one would expect from the work of the American investigators, the other findings referred to in the last paragraph do support them in suggesting that elevations of serum glycoproteins and seromucoid are not normally brought about by an adrenocortical mechanism.

It is appropriate to mention here the interesting observations of Engel and Catchpole[37,38] and more recently of Shetlar, Howard, Joel, Courtright and Reifenstein[39] on the effects of injecting parathyroid extract. Whether the changes in serum glycoprotein levels that occur in conditions not regarded as primarily associated with the parathyroid gland could conceivably be brought about by a parathyroid mechanism is at present not clear. Injection of a thyrotrophic hormone fraction also has been reported to produce a striking increase in serum hexosamine concentration.[40]

Role of the Liver

Many other aspects might be mentioned, but something ought to be said about the possible rôle of the liver in producing the observed changes in plasma glycoprotein levels. It has been found by Werner[7] in Upsala that rabbits whose livers have been poisoned (*e.g.*, by phosphorus) do not show a rise in serum protein-bound carbohydrate after massive bleeding as do normal rabbits. It has also been demonstrated, by L. L. Miller[41] in perfusion experiments, that the liver plays a dominant part in the production of seromucoid. Furthermore, Greenspan[42] and others have reported low seromucoid levels in patients with hepatitis or cirrhosis.

These findings lead one to suggest, tentatively, that perhaps trauma stimulates the liver to produce seromucoid, and possibly other glycoproteins also, in increased amount. How this stimulation might be brought about—whether by hormonal or nervous mechanisms—we do not know. Nor do we know whether a similar mechanism might operate in other conditions (e.g., carcinoma), or whether tissues other than the liver might contribute to the serum changes.

Conclusion

In conclusion, it is perhaps not superfluous to emphasize once more that the term "plasma glycoproteins" comprises a complex group of substances and to point out that the individual glycoproteins may well prove to have differing origins and functions in the body. For this reason the methods hitherto employed in this type of work must be regarded as relatively crude. Furthermore, the interpretation of physiologic and pathologic observations is limited by lack of exact knowledge of the chemical nature of the substances being dealt with.

Acknowledgments

The author is grateful to Professor J. Gough and Doctor A. G. Heppleston for reading the manuscript, and to Mr. B. T. Stephens for drawing most of the figures.

REFERENCES

1. Winzler, R. J.: Glycoproteins. Chapter 9, The Plasma Proteins, Vol. 1, 309, 1960. Academic Press.

2. Winzler, R. J., Devor, A. W., Mehl, J. W., and Smyth, I. M.: Studies on the mucoproteins of human plasma. I. Determination and isolation. J. Clin. Invest. 27: 609, 1948.

3. Hahn, A.: Der Doppelstickstoff, ein Diagnostikum fur endogenen ElweiBzerfall, insbesondere fur okkulte eitroige Prozesse. Biochem. Z. 121: 262, 1921.

4. Wolff, E.: Sur l'albumosemie a l'etat physiologique et pathologique. Ann de Med. 10: 185, 1921.

5. Koiw, E., and Gronwall, A.: Staining of protein-bound carbohydrates after electrophoresis of serum on filter paper. Scand. J. Clin. and Lab. Invest. 4: 244, 1952.

6. Shetlar, M. R., Foster, J. V., Kelly, K. H., and Everett, M. R.: Serum polysaccharide level in the normal state. Proc. Soc. Exper. Biol. and Med. 69, 507, 1948.

7. Werner, I.: On the regeneration of serum polysaccharide and serum proteins in normal and intoxicated rabbits. Acta Physiol. Scand. 19: 27, 1949.

8. Jayle, M. F.: Signification biochimique et clinique des glycoproteides seriques. Presse Med., No. 20: 281, 1946.

9. Shetlar, M. R.: The serum glycoprotein as an indicator of disease process. J. Oklahoma State Med. Assoc.. 323, 1958.

10. Stary, Z.: Mucoproteins in clinical chemistry. Clin. Chem. 3: 557, 1957.

11. Stary, Z.:Mucosacccharides and glycoproteins. Chemistry and physiopathology. Ergeb. Physiol. 50: 174, 1959.

12. Seibert, F. B., Pfaff, M. L., and Seibert, M. V.: A serum polysaccharide in tuberculosis and carcinoma. Arch. Biochem. 18: 279, 1948.

13. Cohen, S. S.: Observations on the estimation of desoxyribose nucleic acid. J. Biol. Chem. 156: 691, 1944.

14. Seibert, F. B., Seibert, M. V., Atno, A. J., and Campbell, H. W.: Variation in protein and polysaccharide content of sera in the chronic diseases, tuberculosis, sarcoidosis, and carcinoma. J. Clin. Invest. 26: 90, 1947.

15. Keyser, J. W.: Serum tryptophane-perchloric acid reaction as a measure of tissue destruction. Nature 164: 889, 1949; J. Clin. Path. 3: 106, 1950.

16.Werner, I., and Adin, L.: On the presence of sialic acid in certain glycoproteins and gangliosides. Acta Soc. Med. Upsaliensis 57: 230, 1952.

17. Keyser, J. W.: Blood serum protein-bound carbohydrate after injury. J. Clin. Path. 5: 194, 1952.

18. Shetlar, M. R., Bryan, R. S., Foster, J. V., Shetlar, C. L., and Everett, M. R.: Serum polysaccharide levels in experimenal inflammation. Proc. Soc. Exper. Biol. and Med. 72: 294, 1949.

19. Shetlar, M. R.: The polysaccharides of serum proteins in cancer. Texas Rpts. on Biol. and Med. 10: 223, 1952.

20. Keyser, J. W.: Effect of nitrogen mustard or X- or radium-irradation treatment on the level of blood serum protein-bound carbohydrate (polysaccharide) in patients with neoplastic diseases. Brit. J. Cancer 8: 238, 1954.

21. Catchpole, H. R.: Serum and tissue glycoproteins in mice bearing transplantable tumors. Proc. Soc. Exper. Biol. and Med. 75: 221, 1950.

22. Gersh, I., and Catchpole, H. R.: The organization of ground substance and basement membrane and its significance in tissue injury, disease and growth. Amer. J. Anat. 85: 457, 1949.

23. Sonnet, J.: Les glycoproteines seriques a l'etat normal et pathologique. (Editions Arscia, Brussels, 1956).

24. Keyser, J. W., Jenkins, W. J., Lloyd, G. H. T., Pallis, C., and Sanders, P. G.: Serum proteins and protein-bound carbohydrate in relation to tissue breakdown and regeneration. Biochem. J. 65: 37P, 1957.

25. Wertheimer, Fabre and Clogne (1919), cited by Cuthbertson (Ref. 27).

26. Cuthbertson, D. P.: The disturbance of metabolism produced by bony and non-bony injury, with notes on certain abnormal conditions of bone. Biochem. J. 24: 1244, 1930.

27. Cuthbertson, D. P.: Observations on the disturbance of metabolism produced by injury to the limbs. Quart. J. Med. 1 (N.S.), 233, 1932.

28. Heppleston, A. G., and Keyser, J. W.: The relationship of tissue formation and destruction to the serum protein-bound carbohydrate levels in experimental inflammation. Brit. J. Exper. Path. 38: 111, 1957.

29. Shetlar, M. R., Erwin, C. P., and Everett, M. R.: Serum polysaccharide levels in rats bearing the Walker 256 tumor. Cancer Res. 10: 445, 1950.

30. Weimer, H. E., Quinn, F. A., Redlich-Moshin, J., and Nishihara, H.: Effect of tumor growth on serum glycoprotein concentrations in the rat. J. Nat. Cancer Institute 19: 409, 1957.

31. Baldwin, R. W., and Harries, H. J.: Serum protein and glycoprotein changes during growth of experimental tumours in the rat. Brit. J. Cancer 12: 99, 1958.

32. Heppleston, A. G., and Keyser, J. W.: The relationship of tissue formation and destruction to the levels of the serum protein-bound carbohydrate in rats bearing the Walker 256 carcinoma. Brit. J. Exper. Path. 40: 263, 1959.

33. Kelley, V. C., Kirschvink, J. F., and Ely, R. S.: Evidence for an adrenal mechanism of control of serum levels of mucoproteins, hexosamines, and nonhexosamine polysaccharides. Amer. J. Physiol. 171: 738, 1952.

34. Weimer, H. E., and Redlich-Moshin, J.: Comparative effects of intramuscular injections of ACTH, cortisone, and saline on serum glycoprotein levels. Proc. Soc. Exper. Biol. and Med. 84: 34, 1953.

35. Shetlar, M. R., and Shetlar, C. L.: Effect of cortisone on serum glycoprotein and seromucoid levels of rats. Proc. Soc. Exper. Biol. and Med. 88: 622, 1955.

36. Keyser, J. W.: The effect of adrenocortical hormones and ACTH on seromucoid and glycoprotein levels in the rabbit. J. Endocrinol. 18: 197, 1959.

37. Engel, M. B.: Mobilization of mucoprotein by parathyroid extract. A.M.A. Arch. Path. 53: 339, 1952.

38. Engel, M. B., and Catchpole, H. R.: Excretion of urinary mucoprotein following parathyroid extract in rats. Proc. Soc. Exptl. Biol. and Med. 84: 336, 1953.

39. Shetlar, M. R., Howard, R. P., Joel, W., Courtright, C. L., and Reifenstein, E. C., Jr.: The effects of parathyroid hormone on serum glycoprotein and seromucoid levels and on the kidney of the rat. Endocrinol. 59: 532, 1956.

40. Boas, N. F., and Ludwig, A. W.: Endocrine regulation of serum hexosamine levels. J. Clin.. Endocrinol. and Metab. 12: 965, 1952.

41. L. L. Miller.: The dominant role of the liver in the synthesis of the plasma mucoproteins as studied with the aid of ^{35}S labeled sulfate, lysine-6-^{14}C, and acetate-1-^{14}C. Resumes des communications, 3eme Congres International de Biochimie, 1955, p. 45.

42. Greenspan, E. M.: Clinical significance of serum mucoproteins. Adv. Intern. Med. 7: 101, 1955.

Welsh National School of Medicine
Institute of Pathology, Royal Infirmary, Cardiff, U.K.

ABSTRACTS

The Affinity of Heparin for Certain Liberators of Histamine

JOE M. DABNEY* and ALLAN J. STANLEY**

Texas Reports on Biology and Medicine, 18: 194-201, Summer 1960

High concentrations of histamine often occur where there is a high concentration of heparin, e.g., in mast cells. If much histamine is released from these cells by displacement, then a selective concentration of the releasing substance in these cells must be postulated. In which case, the mechanism underlying the uptake of the releaser is likely to be more complex than an affinity for heparin and must certainly be considered the basic factor leading to histamine release.

*Assistant Professor of Physiology.
**Professor of Physiology.

Vascular Responses in the Exposed Human Colon

JACK D. WELSH* and STEWART WOLF**

The American Journal of Digestive Diseases, 5: 579-602, July, 1960

Direct microscopic observations of the superficial vasculature of the human colon have been made in a patient with a colostomy. The appearance of the superficial vasculature has been correlated with estimates of blood flow as reflected by mucosal color and radiometric measurements of mucosal temperature under a variety of conditions.

1. The depth of color of the exposed mucosa was found to correlate closely with the degree of filling of the superficial mucosal vessels and with the temperature of the colostomy in terms of directional change. Although no precise quantitative correlation could be made, it appeared reasonable to assume that temperature measurement of the colostomy bud reflected change in direction of superficial blood flow.

2. The temperature of the skin of the back of the hand frequently varied inversely with colonic temperature and most consistently during the gastrocolic reflex after meals.

3. Motor activity of the colon was associated with hyperemia of the stoma, which may have been due in part to mechanical pressure.

4. The function of the colon in the subject studied appeared to be readily responsive to symbolic stimuli arising from meaningful life situations. Hyperemia and increased blood flow were noted particularly under circumstances provocative of hostile feelings. Such forces appeared to modify the effects of other stimuli, including pharmacodynamic agents.

5. Immersion of one hand in cold water was generally associated with hyperemia and increased mucosal blood flow in the colon.

6. Epinephrine induced either an initial pallor and decrease in blood flow followed by a secondary hyperemia or only a hyperemia.

7. An anticholinergic drug, Pathilon, when applied locally to the colon produced no effect. Some inhibitory effects were noted when it was administered by mouth in amounts from 75 to 150 mg. However, parenteral administration produced sustained mucosal pallor, decrease in colon temperature, and interruption of contractile activity. Predictable inhibition of the gastrocolic reflex was also observed upon parenteral injection of the Pathilon.

8. Since the usual postprandial warming of the skin failed to occur when the gastrocolic reflex was inhibited it would suggest that the skin temperature changes following a meal may be secondary to alterations of blood flow in the intestine rather than to changes in general metabolic activity.

*Instructor in Medicine.
**Professor of Medicine, Consultant Professor of Psychiatry, Neurology, and Behavioral Sciences.

Histochemical Use of the Cyanocarbon Organic Compounds

J. F. LHOTKA*

Nature 184: 1153-4 (1959)

Histochemical localizations associated with tissue protein components may be obtained in formalin fixed, paraffin processed sections treated for 2 hours in 0.5 to 2% solutions of tetracyanoethylene in tetrahydrofuran, ethyl acetate dimethylsulphoxide, or dimethylformamide. Tetracyanoethylene is a very active compound and may well have possibilities as a localizing agent in other than protein reactions.

*Associate Professor of Anatomy.

Treatment of Severe Staphylococcal Infections in Infancy and Childhood with Vancomycin

HARRIS D. RILEY, Jr.,* and NELL J. RYAN**

Antibiotics Annual, 908-916, 1959-1960

Vancomycin was employed therapeutically in the management of 25 infants and children hospitalized with serious staphylococcal infections. In view of the severity of the infections in this group of patients and the nature of their underlying illnesses, the therapeutic effects are considered significant. All strains of Staph. aureus were inhibited by vancomycin in concentrations of 5μg/ml. or less and the majority required less than 2.5μg/ml. The majority of the strains were resistant to other commonly employed antimicrobial agents. While untoward mild side effects from the drug were relatively common, particularly with earlier lots, the side effects were not serious and therapy had to be terminated in only 2 patients because of side reactions.

Vancomycin is thought to be a valuable agent in the treatment of serious staphylococcal disease.

*Professor of Pediatrics.
**Research Fellow in Cardiology.

JAMES L. DUNAGIN, M.D.

JAMES E. MAYS, Jr., M.D.

FRANKLIN NELSON, Ph.D.

Fifteen New Faculty Members

Fifteen new faculty members have assumed duties in clinical departments at the School of Medicine.

Additions to the part-time faculty include Hilliard D. Estes, M.D., director of FAA's Civil Aeromedical Research Institute. Doctor Estes was appointed consultant professor of research preventive medicine and public health. He received his M.D. degree at Harvard and an M.P.H. from the Harvard School of Public Health.

Among the new full-time staff members is Chester M. Pierce, M.D., assistant chief of the psychiatric service at the VA Hospital. He holds the appointment of assistant professor of psychiatry. Doctor Pierce, also a graduate of Harvard Medical School, came here from the University of Cincinnati College of Medicine.

Others recently appointed are:

Department of Anesthesiology—Victor R. Neal, M.D., instructor; Roland F. Crane, M.D., and Riley W. Park, M.D., clinical assistants. Doctor Neal, a full-time instructor, is a 1957 graduate of OU Medical School. He interned at St. Anthony Hospital, Oklahoma City, and returned to the Medical Center for residency training. Doctors Park and Crane are serving part-time. Both took their specialty training at the Medical Center. Doctor Park is a 1957 OU medical graduate and Doctor Crane earned his M.D. at Baylor University College of Medicine.

Department of Medicine—Robert D. Lindeman, M.D., clinical assistant. Doctor Lindeman, a 1956 graduate of Upstate Medical Center, Syracuse, N. Y., is director of Heart Disease Unit program services for the State Health Department's Division of Chronic Disease Control.

Department of Pediatrics—James L. Dunagin, M.D., and James E. Mays, Jr., M.D., instructors; Mary I. Abbott, M.D., and Nell J. Ryan, M.D., clinical assistants; David O. Childers, M.D., visiting lecturer. Doctor Dunagin, a Tulane medical graduate, is medical director of the Crippled Children's Unit, State Department of Public Welfare. He was head of the pediatric service, Charity Hospital Collaborative Child Development Program, New Orleans, before coming to Oklahoma this year.

Doctor Mays, appointed on a half-time basis, last year was chief resident in pediatrics at the OU Medical Center and chairman of the University Hospitals House Staff. A graduate of University of Tennessee Medical School, he interned at Mid-State Baptist Hospital, Nashville, before beginning residency training here.

Both Doctor Ryan and Doctor Abbott are serving full time. Doctor Ryan, from the

University of Mississippi Medical College, interned at Vanderbilt University Hospital, started residency training at the OU Medical Center and completed her advanced work at Mississippi. Doctor Abbott, an OU medical alumna, interned at Mercy Hospital and took her specialty work at the Medical Center.

The new visiting lecturer, Doctor Childers, is practicing in Shawnee. A graduate of LSU Medical School, he interned and took his residency work at Charity Hospital, New Orleans, then spent two years in the navy before moving to Oklahoma this year.

Communication disorders—Floyd W. Emanuel, a University of New Mexico graduate working toward his Ph.D. here, named supervisor of Speech Pathology Service, Speech and Hearing Center.

Department of Psychiatry—Franklin Nelson, Ph.D., instructor in medical psychology; William J. Dickerson, M.D., clinical assistant. Doctor Nelson, awarded a Ph.D. at Yale University this year, was senior clinical psychologist at Connecticut State Reformatory, Cheshire, Conn., before joining the OU medical School's new clinical psychology division. Doctor Dickerson, a 1955 OU graduate, interned at San Francisco General Hospital, studied two years at the Langley-Porter Neuro-psychiatric Institute in San Francisco. He continued his psychiatric training in London last year, spending six months in clinical neurology at the National Hospital for Nervous Diseases and six months at the Hampstead Child Therapy Clinic and Tavistock Institute. Doctor Dickerson returned to the Medical Center as chief psychiatric resident.

Department of Surgery—Preston G. Wheeler, D.D.S., clinical assistant in oral surgery. Doctor Wheeler received his degree at Baylor University School of Dentistry.

Jack Keyl, Ph.D. Will Fill Taylor Post

M. Jack Keyl, Ph.D., associate professor, has been named chairman of the Department of Physiology at the University of Oklahoma School of Medicine. Doctor Keyl, former vice-chairman, fills the departmental post left by A. N. Taylor, Ph.D., who joined A.M.A.'s Council on Medical Education and Hospitals last summer. Dr. Keyl has been a member of the faculty since 1957. He received his Ph.D. degree at the University of Cincinnati.

William Bennett Bean, M.D. To Present AOA Lecture

William Bennett Bean, M.D., professor and head of the Department of Internal Medicine, State University of Iowa College of Medicine, will give the annual Alpha Omega Alpha fall lecture at the University of Oklahoma School of Medicine.

He will speak at 4 p.m., Wednesday, November 16, in the school auditorium. Doctor Bean also will serve as a visiting professor of medicine November 16-18.

Two Instructors and One Visiting Lecturer Named

Two instructors and one visiting lecturer have been appointed to the School of Medicine faculty in recent action.

Hazel McGaffey, M.D., who came here from the Denver VA Hospital to become assistant chief of pathology at the Oklahoma City VA Hospital, was named instructor in pathology, and James Preston Bell, M.D., back from a residency at Massachusetts General Hospital, is a new instructor in orthopedic surgery. Both are part-time positions.

Doctor McGaffey was graduated from the University of Minnesota School of Medicine in 1949 and Doctor Bell is a 1952 OU medical graduate.

The visiting lecturer is C. Frank Knox, Jr., M.D., Tulsa, who will teach psychiatry. He received his M.D. at Washington University School of Medicine.

PRESIDENT'S LETTER

Thanksgiving Day, 1960, again gives us pause to reflect on our heritage and the great privilege that we enjoy living in a nation that is still truly free. We need not be overcome with emotion on this score. Quite the contrary, it now seems to me deadly serious business; the fact that we still cling stubbornly to the principles those Pilgram Fathers set up on our rugged eastern shores.

We are having lots of troubles. As doctors, we are getting pushed around a little and maybe coerced into Federal subsidies. Applicants to medical schools are falling off in numbers and in the quality of the applicants. The cost of practice is rising; the physician who keeps his overhead under 50 per cent of gross is fortunate, or else is conducting an admirably supervised business operation. There are gloomy forecasts for the medical profession, but there are also patches of blue sky ahead: Legislation passed during the last six months by the Congress has favored ever so slightly the private practice of medicine. Public opinion nationally is slanted to our own beliefs. (Ref. The Pill That Could Change America—an up-to-date review of socialized medicine in the world today, recently published by the American Medical Association.)

Here in Oklahoma I think I am in a position to tell you that we can be thankful for the brand of medicine practiced over our state. It is of the highest order.

Sincere best wishes at this Thanksgiving time.

Walter E. Brown, M.D.

WALTER E. BROWN, M.D.
President

IN EMOTIONALLY PROJECTED
SMOOTH-MUSCLE SPASM...

Prompt, Profound

Protection...at both

ends of the vagus

PRO-BANTHĪNE®
with DARTAL®

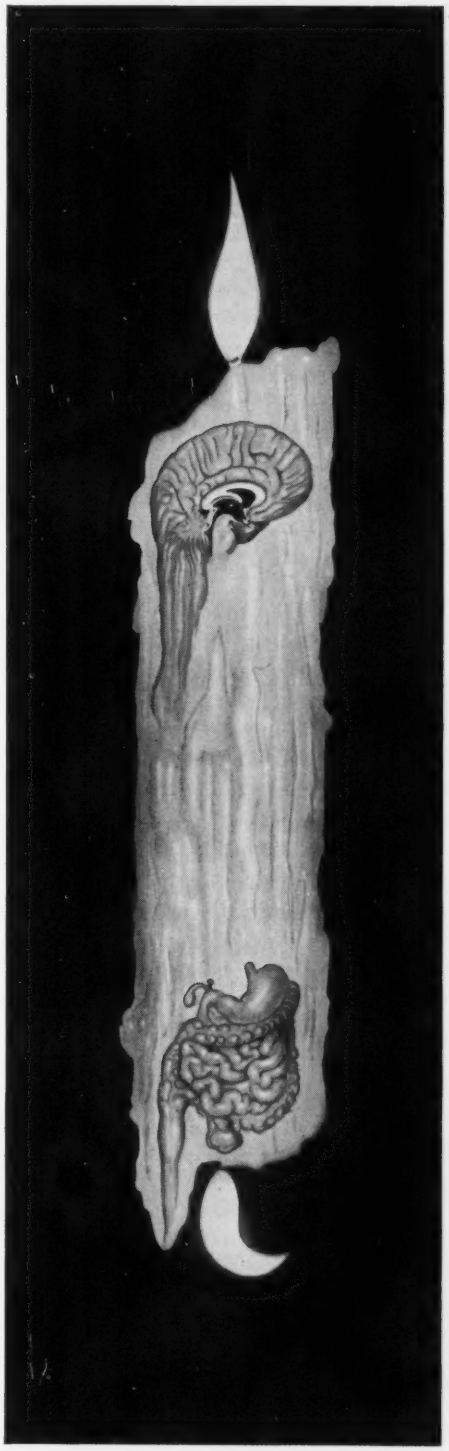
Professional reliance on the therapeutic proficiency of Pro-Banthīne in functional gastrointestinal disorders has made it the most widely prescribed anticholinergic.

The consistent relief of emotional tensions afforded by Dartal makes this well-tolerated tranquilizer a rational choice to support the antispasmodic action of Pro-Banthīne in emotionally influenced smooth-muscle spasm.

These two reliable agents combined as Pro-Banthīne with Dartal consistently control both disturbed mood and disordered motility when emotional disturbances project themselves through the vagus to provoke such gastrointestinal dysfunctions as gastritis, pylorospasm, peptic ulcer, spastic colon or biliary dyskinesia.

USUAL ADULT DOSAGE:
One tablet three times a day.

SUPPLIED as aqua-colored, compression-coated tablets containing 15 mg. of Pro-Banthīne (brand of propantheline bromide) and 5 mg. of Dartal (brand of thiopropazate dihydrochloride).



G. D. SEARLE & CO.
Chicago 80, Illinois
Research in the Service of Medicine

News

$42 Million Center Begins With a 250 Bed Hospital

Tulsa Welcomes New Saint Francis Hospital

Tulsa's $8 million Saint Francis Hospital, the impressive first phase of a projected $42 million medical center complex, was opened for use in October. During open house ceremonies, more than 20,000 northeastern Oklahomans toured the 250 bed institution, a gift to Tulsa from the William K. Warren Foundation, and went away with the unanimous feeling that Oklahoma has been blessed with one of the finest hospitals in the land.

The imposing six-story structure is built in the shape of a "Y" and architectural planning has already begun on an adjoining "Y" which will double the capacity to 500 beds. Future plans also include the establishment of a multi-million dollar research center and a $12 million shopping center west of the hospital site. Proceeds from the shopping center will augment the financial support of both the hospital and the research center.

Warren's Philanthropy

The imaginative plan is the product of the three-year-old philanthropic foundation created by oilman Warren and inspired and directed by his wife, Natalie Warren. Both Warrens are long-time Tulsa civic leaders with histories of continued community service as well as personal philanthropy.

In the articles of incorporation of the foundation, the community spirit of the Warrens is aptly reflected: "To establish and operate clinics, hospital plants and any and all other buildings for the treament of the sick, regardless of the ability to pay, and to carry on research, experiments, investigations, analyses and studies of the cause, nature, prevention and cure of diseases, deformities, functional disorders, afflictions and other conditions."

Significantly, a charter for the organization was issued on December 3, 1957, the same month and day of Warren's birthday as well as that of the hospital's namesake, the patron Saint Francis. Official dedication of the first phase, the 250 bed hospital, will continue the chronological association since it is scheduled for December 3, 1960.

Largest Gift to Catholic Sisters

The Sisters Adorers of the Most Precious Blood have tackled the "man-size" job of operating Saint Francis Hospital.

A relatively small Catholic order, the sisters have the distinction of receiving the largest gift ever made to an order of Catholic sisters in the United States. Primarily rural educators, the sisters are making their debut in the Tulsa area and, in doing so, are undertaking the management of the largest hospital presently under their direction (they also operate St. Mary's, Enid).

With provincial headquarters in Wichita, Kansas, the order directs operations in six states. It has operated in Oklahoma since before statehood.

Monument to Healing

Tulsa's towering new edifice is situated at 61st Street and Yale Avenue, high on a hill overlooking the city. Planned by noted Chicago hospital consultants, Doctor and Mrs. Herman Smith, and designed by the Chicago architectural firm of Schmidt, Garden and Erickson, each room of the new hospital has unobstructed outside exposure. From an aesthetic standpoint, the pink-granite-faced structure is perfectly complimented by the blue frame of the Tulsa sky.

Saint Francis' ground floor covers 45,870 square feet, containing the kitchen, laundry, cafeteria and dining room for 200 persons, two separate dining rooms, lockers and lounges for nurses and other personnel, the morgue and autopsy room, and mechanical and housekeeping facilities.

A unique feature of the hospital's food service is the electrically heated and refrigerated food cart system which keeps foods hot and cold during transportation from the

kitchen to the patients. Hospital corridors are generously equipped with electrical wall receptacles to supply power for the carts.

1st Floor Surgery

An expansive suite of six operating rooms are in the Saint Francis general surgery department on the 54,340 square foot first floor. Also, two emergency surgeries are situated in the emergency receiving department of the same floor.

This innovation not only makes it more convenient to transfer patients from emergency room to surgery, but also makes experienced surgeons available for consultation with residents and interns staffing the emergency section.

Other features of the first floor include: recovery room, fully equipped radiology department; laboratory and pathology department; central supply and formula room; pharmacy; coffee bar; gift shop; library; conference rooms; administrative offices; a medical records room; waiting rooms; nondenominational meditation rooms; and, a doctors' lounge.

Physicians are particularly proud of the convenience and efficiency of the centralized clinical services on the first floor.

Obstetrical Department

The second floor contains the obstetrical department with four combination labor and delivery rooms, and an additional six beds in labor rooms. Three nurseries and a separate nursery for premature babies can accommodate fifty-four babies at a time.

Unique examination stations adjoining the nurseries permit doctors to check the babies without entering the nursery itself. The physician asks a nursery attendant to pass the child through a sliding glass covered-pass-through into the examination room. The system allows eight babies to be checked simultaneously.

The remainder of the floor accommodates approximately sixty maternity and gynecological patients.

General surgery, psychiatric and medical patients will be housed on the third and fourth floors and a portion of the fifth. Pediatric cases are also cared for on the fifth floor.

The beautiful, contemporary decor of Saint Francis Hospital is illustrated in this view of the spacious lobby. A portrait of the William K. Warrens decorates the lounge area. The information desk appears at the left.

Suites Available

Each floor has a seminar and conference room, flower room, storage and utility rooms, and day rooms for convalescents.

About fifty per cent of the patient rooms are private and the balance semi-private, (there are no wards). Each has private toilet facilities and the maternity areas, as well as some of the private rooms, are equipped with baths.

Two room suites are available on each floor caring for adult patients.

Other Features

Among other unique features incorporated into the planning of the hospital are: a 200 seat chapel; a convent which houses 44 sisters; a pneumatic tube message system between nurses' stations; two-way communications between patients' rooms and nursing station; electrically controlled beds; remote control television, recorded music or radio, with selector controls built in the pillow speaker; closed circuit TV between lobby and nursery, where youngsters may view their baby brothers and sisters; a central vacuum system piped to each room; and continuous oxygen supply throughout the hospital.

Physicians will check out pocket transistor radios as they enter the hospital, and thus may be paged without disturbing patients.

Key Personnel

Three persons will assume primary responsibility for the administrative management of the hospital. They are: Sister Mary Hildalita, Administrator; Sister Mary Marcellina, Sister Superior of the convent and Supervisor of Surgery; and, Elmer C. Bene, Assistant Administrator and Personnel Manager.

The thirteen man Board of Directors includes three Tulsa physicians: Wilkie D. Hoover, M.D., Felix R. Park, M.D., and, William O. Smith, M.D.

Elected as President of the medical staff is Carl Lindstrom, M.D. The following are named as heads of departments: Robert G. Tompkins, M.D., *Medicine;* James B. Thompson, M.D., *Surgery;* John F. Fitzgibbons, M.D., *Pathology;* Walter E. Brown, M.D., and D. Reid Tickle, M.D., *Radiology;* and Howard A. Bennett, M.D., *Anesthesia.*

Top Scientific Program Planned for MDs at A.M.A. Clinical Meeting

The 14th clinical meeting of the American Medical Association in Washington, D.C., November 28-December 1, will offer a well-rounded, stimulating scientific program designed to interest both family physicians and specialists. The symposia, presentations, and discussions will stress the theme, "New Developments in Old Diseases and Old Developments in New Diseases."

Participants will include proponents of both sides where different views exist on the management of a disease or medical condition. For example, should tonsils be removed when mildly involved or only when they are badly diseased?

The patient's side will also be heard on one symposium. Clarence B. Randall, an industrialist and special assistant to President Eisenhower, will talk on coronary disease from the patient's viewpoint. Other participants and their topics on this panel are:

A. Carlton Ernstene, Moderator, Cleveland, Ohio;

Thomas W. Mattingly, Washington, D. C., Can Coronary Patients be Predicted by Clinical or Physiologic Measurements?;

Donald S. Fredrickson, Bethesda, Maryland, Fat Metabolism as a Background to the Development of Coronary Atherosclerotic Disease;

Victor A. McKusick, Baltimore, Maryland, Genetic Background of Patients with Coronary Vascular Disease;

Eugene A. Stead, Jr., Durham, North Carolina, Management of the Dietary and Psychologic Problems of the Patient with Coronary Disease.

The Problem of Management of Nodules, always perplexing for both the specialist and the family physician, will be discussed by three panels concerned with breast nodules, the solitary pulmonary nodule, and nodules of the neck.

Another panel will discuss Recent Advances of the Use of Antibiotics and Steroids, and additional symposia will cover areas in obstetrics-gynecology, pediatrics,

Washington, D. C., the nation's capital, will also be the capital of American medicine November 28-December 1 during the 14th Clinical Meeting of the American Medical Association. Hundreds of scientific and industrial exhibits, symposiums, lectures, and group discussions have been scheduled to appeal to the physician in family practice. Headquarters will be in the Sheraton-Park Hotel and most scientific activities will be held in the National Guard Armory.

edema, cirrhosis and liver diseases, renal problems, osteoporosis, thyrotoxicosis, eye problems, orthopedic surgery and trauma, clinical nutrition and bronchopulmonic disease.

Outstanding physicians and research scientists from throughout the nation will conduct the scientific program, and the timetable of discussions has been arranged so that physicians may attend the maximum number of sessions and participate in discussions in the particular fields in which they are most interested.

All the scientific sessions will be held at the District of Columbia National Guard Armory. Starting at 9:30 a.m., Monday, November 28, and running until 11:30 a.m., Thursday, December 1, three sections in both morning and afternoon will be held simultaneously in separate rooms at the Armory. One section will be devoted to presentations of formal papers, another to panel discussions, and the third will be a symposium, all of which have question-and-answer periods.

Another important and integral part of the clinical meeting will be the Scientific Exhibit which will contain approximately 125 exhibits in the Armory. Many of these will relate to such specific subjects as cardiovascular conditions, arthritis and rheumatism, and cancer. Others will be grouped into rather broad areas such as neurology and psychiatry, pediatrics, orthopedics, dermatology, drug therapy, surgery, ophthalmology and otolaryngology, obstetrics and gynecology, and laboratory and clinical investigation. Special demonstration exhibits on Fractures and Problems in Delivery will also be included.

Over 100 exhibits will make up the Industrial Exhibition, also in the Armory, where the products, services, and aids provided by industry to physicians and their patients will be on display and staffed by competent and knowledgeable attendants.

Medical motion pictures will be shown at the Armory, as well as closed color television showings originating in Georgetown University Hospital. Six one-hour TV presentations will be devoted to dermatology, pediatrics, emergency treatment of major injuries, newer methods of surgical treatment of peptic ulcer, orthopedics and pathology.

Three scientific breakfasts will be held on both Tuesday and Wednesday at the Statler Hotel with the themes of "To Do or Not To Do" and "Problems of Management" in particular diseases or types of cases.

The entire scientific program of the Clinical meeting appears in the October 22 issue of the Journal of the American Medical Association.

Welfare Medical Program Expanded to Cover 'Near Needy'

On October 19, the Oklahoma Public Welfare Commission revealed tentative plans for the implementation of a medical care program for persons over age 65 who qualify as 'near-needy.'

Recent federal legislation, H.R. 12580—the "Kerr Bill," authorized the Department of Health, Education and Welfare to assist states in setting up health care programs on a federal-state matching fund basis. The legislation not only permits the broadening of medical benefits to beneficiaries of public assistance, but also provides financial relief to those elderly who are not on assistance roles, but who are unable to meet the costs of illness out of their own resources (the near-needy).

Previously, the Commission had announced expanded benefits under the *welfare* medical assistance program, but had deferred launching the program for the 'near-needy' until a means test could be developed which would keep the number of eligible persons within the financial capability of the Department of Public Welfare. The *welfare* medical assistance program, which went into effect on October 1st, was reported in detail in the October issue of the *Journal* of the Oklahoma State Medical Association.

Benefits

Aged persons qualifying for the 'near-needy' program will receive most of the *in-patient* health care benefits available to public assistance recipients.

Originally, it was intended to offer the 'near-needy' the same in-patient benefits (general hospital, convalescent hospital, nursing home) and out-patient benefits (emergency care in hospital or doctor's office, certain home visits, out-patient therapeutic radiology, home nursing care, etc.) as will be enjoyed by those on relief rolls. Now, it appears that financial limitations will prevent such across-the-board duplication of benefits.

The 'near-needy' will receive in-patient care in a general hospital, in-patient care in a convalescent hospital, emergency care in a hospital emergency room or doctor's office, and a limited amount of nursing care in the home, following discharge from a hospital.

In-patient medical care in a *licensed general hospital* is authorized for *twenty-one* days for any one admission, provided the care is rendered for life or sight endangering illness. Hospitals will receive per diem costs up to $20.93 per day and physicians will receive 75% of the currently recognized Medicare Schedule of Allowances for surgery, anesthesiology, pathology and therapeutic radiology (malignant diseases only). For medical services, physicians will be paid at the rate of $5 per day for not more than fifteen days of any one admission.

Convalescent care in a *convalescent hospital* or in a *convalescent facility* of a *general hospital* is authorized for a maximum period of thirty-one days per admission. Hospitals will receive a maximum of $10.47 per day for such care, and physicians will be paid at the rate of $5.00 per visit (one visit per day) up to a maximum of ten visits per admission.

Acute injury cases may be cared for in a licensed general hospital, or a physician's office. In addition to receiving payment for professional services at the regular rate, $15 is allowed for x-ray services and $7.50 for laboratory procedures.

Upon a physician's prescription, nursing care will be provided in the home following hospital discharge, up to the necessary length of time as specified by the physician.

The 'near-needy' group will not initially be offered nursing home care nor some of the out-patient benefits available to pensioners.

Eligibility Requirements

According to Lloyd Rader, Director of the Department of Public Welfare, there is no specific method of determining the exact number of persons who will qualify for the 'near-needy' care, although estimates set the number at about 15,000 people, slightly more than 10% of the over-65 population who are not on public relief.

Standards of eligibility adopted by the Welfare Commission allow a single person to have an $8,000 equity in a home, a $1,000 life insurance policy, a $1,500 equity in tools-of-trade, a $2,500 equity in a business and a $700 equity in all forms of reserve property. Couples have the same limitations of equity, except they may have a $2,000 life insurance policy and a $1,000 equity in all forms of reserve property.

The single person who owns his own home may earn up to $924 annually and still qualify; a man and wife who are homeowners may have a joint income of $1,560. A single renter would be allowed $1,188 in exempt income, while a couple could earn up to $1,824. The above income figures for renters are the maximum allowable, authorized only if at least $30 per month is paid in rent.

Requirements also provide that persons must not have transferred property within the last five years for the purposes of qualifying for medical assistance. However, unlike the established welfare policies, there are no residency requirements other than the person must reside in the state at the time of application for financial help.

Hospitals Will Have Forms

Only persons already in the hospital will be able to apply for 'near-needy' medical assistance. Application forms and affidavits will be sent to the hospitals, who will help the needy persons apply for assistance. The completed forms will be sent to the state welfare office where they will be analyzed by a review team prior to approval.

$6 Million Program

A $6,105,000 annual budget has been approved for the 'near-needy' program, $2,200,000 of which will be state funds. State funds will be deposited in a revolving fund, from which medical bills will be paid, then matched at 67.54% by the federal government.

In addition to the $6 million 'near-needy' program, approximately $20 million will be spent annually to provide health care for public pensioners.

Medical Director Named for Rehab

A. D. Robertson, M.D., has been named medical director of the Rehabilitation Center at Oklahoma State Tech, Okmulgee, succeeding Doctor Shelby Gamble. Doctor Robertson assumed medical and administrative duties in Okmulgee on November 1, and will spend full time working with the Rehabilitation Center.

During the past 25 years, Doctor Robertson has been engaged in general practice of medicine in Ohio.

Born in Illinois, Doctor Robertson received his bachelors degree from Ohio Wesleyan University and his medical degree from the University of Michigan Medical School.

During World War II he served with the Air Force with the rank of Major. There he was closely associated with Doctor Howard A. Rush in the development of Convalescent and Rehabilitative services.

In June 1958, he served a fellowship in Physical Medicine and Rehabilitation in New York.

At Oklahoma Tech he will be responsible for administration of the center, medical evaluation of each patient admitted to the center, prescribe all therapy and medication for the patients, re-evaluate patients periodically and recommend when the patient is ready for discharge or vocational training.

For the past year, Doctor Robertson has been associated with the Terrell Medical Group in Ft. Worth, Texas where he has served as director of the Department of Physical Medicine at All Saints Episcopal Hospital. He also has been serving on the Board of Goodwill Industries, Inc., the Board of Multiple Sclerosis and the Board of Cerebral Palsy. He has also been serving in the capacity of consultant to St. Joseph's Hospital and Arlington Memorial Hospital.

OSMA Plans SAMA Banquet

"The Annual Fall banquet sponsored by the Oklahoma State Medical Association is the highlight of our organizational activities each year," said Rex Baggett, President of the University of Oklahoma Chapter of the Student American Medical Association.

He was discussing details of the 1960 banquet with OSMA President Walter E. Brown, M.D.

The event is planned for 7:30 p.m., November 18 in the banquet room of the Oklahoma Home Builders Association, located adjacent to the headquarters building of the medical association in Oklahoma City. Members of the student organization, their wives and the officers, councilors and preceptors of the OSMA will attend the dinner, which has become a traditional mixer between representatives of organized medicine and their future colleagues.

Principle speaker for the evening will be William Bennett Bean, M.D., Professor of Medicine and Head of the Department of Internal Medicine, State University of Iowa School of Medicine.

Doctor Bean, an experienced and popular speaker, will also present the Alpha Omega Alpha Fall Lecture on November 16, prior to his appearance before the SAMA.

Two AMA Officials Visit Oklahoma

Oliver Field, Director of the American Medical Association's Bureau of Investigation, and Fred V. Hein, Ph.D., of the Bureau of Health Education, appeared before Oklahoma audiences during the month of October.

Mr. Field, long-time investigator of medical quackery, journeyed to Stillwater, Oklahoma on October 19, where he addressed nearly 2,000 coeds from the Physical Education classes of Oklahoma State University.

Doctor Hein, a health education specialist, presented two lectures at the annual meeting of the Oklahoma Education Association, held in Oklahoma City, October 27th.

White House Conference on Aging Set for January

Three thousand delegates to the White House Conference on Aging will assemble in Washington, D. C., January 9-12, 1961, to discuss and make recommendations to the President on key problem areas facing America's senior citizens. The purpose of the national meeting will be to consolidate recommendations made at some fifty state conferences which preceded it.

Background

A product of the 85th Congress, Public Law 85-908 authorized the conference, declaring " . . . that the Federal Government shall work jointly with the states and their citizens to develop recommendations and plans for action . . . " which will serve the purposes of:

"1. Assuring middle-aged and older persons equal opportunity with others to engage in gainful employment which they are capable of performing, thereby gaining for our economy the benefits of their skills, experience and productive capacities; and

"2. Enabling retired persons to enjoy income sufficient for health and for participation in family and community life as self-respecting citizens; and

"3. Providing housing suited to the needs of older persons and at prices they can afford to pay; and

"4. Assisting middle-aged and older persons to make preparation, develop skills and interests, and find social contacts which will make the gift of added years of life a period of reward and satisfaction, and avoid unnecessary social costs of premature deterioration and disability; and

"5. Stepping up research designed to relieve old age of its burden of sickness, mental breakdown, and social ostracism."

Recommendations evolving from the conference are required by law to be transmitted to the President within ninety days.

The legislation also authorized the appropriation of sufficient funds to provide 15,000 grants to the states to help them finance the collection of facts and conduct

conferences in advance of the national meeting in 1961.

The Oklahoma Conference

With the passage of the enabling legislation, the Oklahoma State Medical Association's Committee on Aging, under the direction of Hayden H. Donahue, M.D., suggested to Governor Edmondson that an Oklahoma White House Conference on Aging be conducted under the auspices of the Extension Division of the University of Oklahoma. The Governor complied with the request and made application for a $15,000 Federal grant, naming Oklahoma University's President George Cross as General Chairman.

Mr. David Steen, from the Extension Division Staff, was appointed as project coordinator and a statewide study was launched. The general plan was to use fourteen fact-finding committees and "mayors' committees" to uncover information and make recommendations to the state conference in Norman, June 7, 8, and 9, 1960. From the state conference, recommendations would be determined for subsequent transmission to the national meeting.

In keeping with the proposed format of the national meeting, Oklahoma's fact-finding committees were assigned the following subjects: Population Background; Social Services; Mental Health; Public Library Services; Rehabilitation; Research, Training and Demonstration; Education; Local Community Organization; Income Maintenance; Housing Needs of Older People; Health; Nursing Homes and Homes for the Aged; Employment; and, Recreation.

Physicians Play Prominent Roles

More than sixty Oklahoma physicians, as well as many members of the Woman's Auxiliary, participated in various areas of the pre-conference activities, and during the meeting itself. Serving in key positions were: OSMA President Alfred T. Baker, M.D., a member of the Governor's Committee; John DeVore, M.D., Chairman of all fourteen Fact-Finding Committees; J. Walker Morledge, M.D., Chairman of the Fact-Finding Committee on Health; and Lee Honska, M.D., Chairman of the Committee on Research, Training and Demonstration. Other physicians participated as members of various fact-finding committees, as well as on more than thirty mayors' committees.

Significant among the physicians' activities was the work done by John F. Burton, M.D., Chairman of the Sub-Committee on Financing Health Care. The financial ability of aged persons was surveyed and it was recommended that the financing of health care for senior citizens should be accomplished through voluntary means rather than through the popularly-proposed system of using the Social Security mechanism.

400 Attend

Held at Oklahoma University's Student Union Building, the conference attracted some four hundred Oklahomans. Fifty-one recommendations were approved as Oklahoma's contributions to the national meeting (the recommendations appear in full in the July, 1960 issue of the OSMA *Journal*).

Medicine was well represented at the meeting, with approximately thirty physicians and auxiliary members present.

Conference recommendations were approved without incident until it was proposed that "consideration be given to the use of the Social Security system to finance health care for the aged." Physicians dominated the lengthy debate which followed, and were successful in having this measure voted down by the conference. Thus, Oklahoma delegates to the national conference are bound to uphold voluntary enterprise, and community and state action as the mechanisms of choice to solve the health care financing problems of the aged.

National Delegates

In the breakdown of national delegates, 1,740 of the total 3,000 will represent states. The remainder will include representatives of national organization, and Federal departments and agencies. States will be allocated delegates on the basis of population, with no state receiving less than ten.

Oklahoma's delegation, twenty-four strong, was selected by the Governor. They are: J. W. McGann, Oklahoma City; Raymond Crews, Oklahoma City; Arthur Truex, Tulsa; Alfred T. Baker, M.D., Durant; John De-

Vore, M.D., Oklahoma City; Kirk T. Mosely, M.D., Oklahoma City; Malcom White, Oklahoma City; Mrs. S. C. Williams, Hugo; Mrs. Marie Detty, Lawton; Mrs. O. S. Boyd, Norman; Fannie Lou Leney, M.D., Oklahoma City; Kate Frank, Muskogee; Joe Timken, Ph.D., Norman; Virginia Owens, Oklahoma City; Leta Moore, Stillwater; Harry Cooley, Bethany; Elbert Whitwell, Edmond; Richard Burgtorf, M.D., Shattuck; Vernon Snowbarger, D.D., Bethany; C. R. Ellsworth, Lawton; Joe Stowe, D.D., Durant; Wynetka Armor, Oklahoma City; Representative Tom Stevens, Shawnee; and one state senator to be named.

Significance of Conference

Since the original intent of the legislation was to provide the President with "grass roots" recommendations designed to lessen the burdens of the nation's elderly, it is reasonable to assume that at least some of these proposals will require the passage of new legislation.

Although Oklahoma's Conference made conservative recommendations in regard to proposing further Federal action, reports from other state meetings indicate to the contrary. Thus, conservative-minded delegates to the national meeting will have their work cut out for them, if they are to keep part of the problems of aging for local and state solution.

The make-up and attitude of both national legislative houses and the Administration will also have bearing on the final fruits of the year-long study of the status of the old folks.

Something Ventured—Something Gained

In the past, postgraduate education has consisted largely of the dissemination of information. This has traditionally been accomplished through the use of the lecture system. Except for its ease and low cost, the lecture plan has little to recommend it. Certainly, all educators and all audiences, tortured by long hours and hard backed chairs in a darkened room, both agree that the lecture is a poor device to integrate new knowledge and concepts.

On December 15, 16, and 17, the postgraduate division, University of Oklahoma Medical School and the Oklahoma State Medical Association, embarked on a conjoint effort with a new approach to postgraduate education. *No lectures* will be given. The registrants will be divided into small groups. Each group will meet with a guest consultant and a moderator from the local faculty. The sessions will be informal, round-table discussions and presentation of illustrative problem cases. Five topics will be covered. Each registrant will spend one-half day on each topic. The registrants will have an opportunity to ask questions on problems of concern to them.

The topics to be discussed are: The Use of Antibiotics; The Acute Abdomen; The Use and Abuse of Laboratory Tests; Office Management of the Nervous Patient; and Problems of Fluid and Electrolyte Balance.

The course has appropriately been named "Consultations on Problems in Practice." The guest consultants are: David T. Graham, M.D., Associate Professor of Medicine, University of Wisconsin; Ben I. Heller, M.D., Professor of Medicine, Marquette University, Chief of Medicine, VA Hospital, Milwaukee; Marshall J. Orloff, M.D., Assistant Professor of Surgery, University of Colorado; Leslie Zieve, M.D., Associate Professor of Medicine, University of Minnesota, Chief of Radioisotope Service, VA Hospital, Minneapolis; and, David E. Rogers, M.D., Professor and Chairman, Department of Medicine, Vanderbilt University.

The details about enrolling have already been mailed to all physicians. If you wish further information, write to: Office of Postgraduate Education, University of Oklahoma Medical Center, Oklahoma City 4, Oklahoma.

Since the enrollment will be limited, early and advanced registration is necessary.

The results of this venture will be of interest to educators and physicians in other states as well as in Oklahoma. Both the faculty and the students in this course will be pioneers in what may well be a new era in postgraduate medical education.

Thirteen Oklahomans Join College of Surgeons

Approximately 1,175 surgeons, including thirteen Oklahomans, were inducted on October 14 as new Fellows of the American College of Surgeons in cap-and-gown ceremonies closing the annual five-day Clinical Congress of the world's largest organization of surgeons. The A.C.S., founded in 1913 to establish standards of competency and character for specialists in surgery, has grown in 47 years' time from a founding group of 450 to a total membership of approximately 24,000.

Those receiving this distinction from the State of Oklahoma at the 1960 Convocation were as follows: Duane A. Barnett, M.D., Ponca City; Karl K. Boatman, M.D., Oklahoma City; Leonard H. Brown, M.D., Oklahoma City; Paul D. Erwin, M.D., Oklahoma City; Warren L. Felton, II, M.D., Oklahoma City; Glen Floyd, M.D., Bartlesville; Jed E. Goldberg, M.D., Tulsa; John T. Hicks, Jr., M.D., Lawton; Gilbert L. Hyroop, M.D., Oklahoma City; Rene B. Menguy, M.D., Oklahoma City; William A. Miller, M.D., Oklahoma City; Louis E. Speed, M.D., Oklahoma City; and, Charles A. Tollett, M.D., Oklahoma City.

American College of Surgeons Will Meet in Mexico City

Development in surgical techniques will be discussed by leading surgeons of Mexico, Canada and the United States at the first meeting of the American College of Surgeons to be held in Mexico. Dates are January 23 through 26, 1961, with headquarters at the following Mexico City hotels: Del Prado, Vista Hermosa, El Presidente, Alfer, and Continental Hilton.

All members of the medical profession are invited to attend this meeting. An intensive program, including clinics, panel discussions, medical motion pictures, symposia and reports on many important subjects, as well as a special program at University City have been planned.

The following guests have been requested to speak before the assembly: Clayton Crosby, M.D., Regina, Saskatchewan, Canada; E. Ramirez Lopez, M.D., Mexico City; William P. Longmire, Jr., M.D., Los Angeles;

I. S. Ravdin, M.D., Philadelphia; R. Lee Clark, Jr., M.D., Houston, Texas; Anthony R. Curreri, M.D., Madison, Wisconsin; Jose Noriego Limon, M.D., Mexico City; James T. Priestley, M.D., Rochester, Minnesota;

Leonard D. Heaton, M.D., Washington, D.C.; Nicholas Wetzel, M.D., Chicago, Illinois; Ignacio Chavez, M.D., Guadalajara; Owen H. Wangensteen, M.D., Minneapolis, Minnesota; James D. Hardy, M.D., Jackson, Mississippi; L. Kraeer Ferguson, M.D., Philadelphia; Guillermo Alamilla Gutierrez, M.D., Mexico City; Jorge Solis, M.D., Mexico City; Manuel Guijano, M.D., Mexico City;

Carlos D. Guerrero, M.D., Mexico City; Alfonso Topete, M.D., Guadalajara; James Barrett Brown, M.D., St. Louis; Loyal Davis, M.D., Chicago; Robert R. Shaw, M.D., Dallas, Texas; and Michael E. DeBakey, M.D., Houston, Texas.

Speaking at the special afternoon session to be held at University City will be: Eduardo Echeverria, M.D., Alejandro Castanedo, M.D., Conrado Zuckermann, M.D., Enrique Sanchez Palomera, M.D., Reyes Tomayo Ochoa, M.D., and Patricio Beltran Goni, M.D., all of Mexico City.

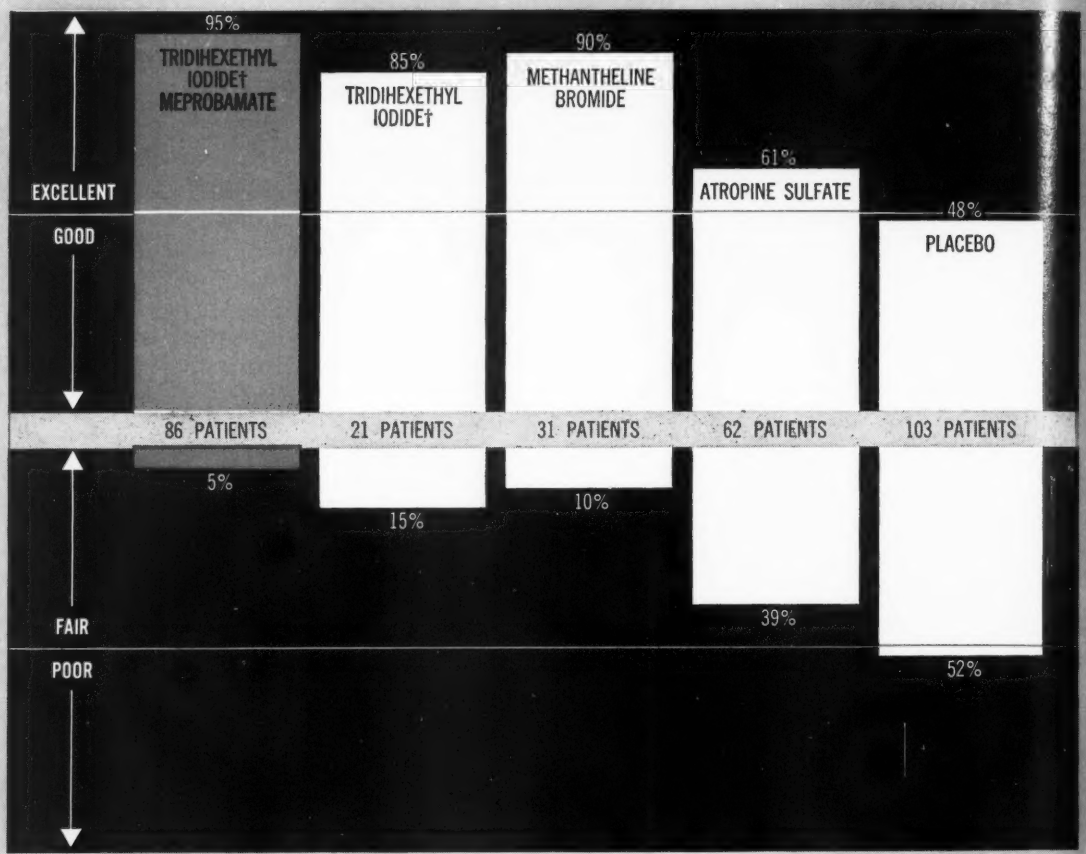
Leading the "How I Do It" clinics will be: Kenneth C. Johnston, M.D., Chicago; Robert M. Zollinger, M.D., Columbus, Ohio; David P. Boyd, M.D., Boston; William E. Adams, M.D., Chicago; Claude E. Welch, M.D., Boston; Henry N. Harkins, M.D., Seattle; and Delfino Gallo, M.D., Guadalajara.

Following the clinics, scientific reports will be presented by: Clemente Robles Castillo, Mexico City; Alton Ochsner, M.D., New Orleans; Colin C. Ferguson, M.D., Winnipeg, Canada; Angus D. McLachlin, London, Ontario; H. Rocke Robertson, M.D., Montreal, Canada; Eduardo Castro, Mexico City; Jesus Lozoya-Solis, Mexico City; and Nicholas Giannestras, Cincinnati.

Additional information may be obtained from William E. Adams, M.D., Secretary, American College of Surgeons, 40 East Erie Street, Chicago 11, Illinois.

clinically proven efficacy...

in relieving tension... curbing hypermotility and excessive secretion in G. I. disorders



PATHIBAMATE combines two highly effective and well-tolerated therapeutic agents:

Meprobamate—widely accepted tranquilizer

and

PATHILON tridihexethyl chloride—anticholinergic noted for its effect on motility and gastrointestinal secretion with few unwanted side effects.

Contraindications: glaucoma, pyloric obstruction, and obstruction of the urinary bladder neck.

Two available dosage strengths permit adjusting therapy to the G.I. disorder and degree of associated tension.

Where a minimal meprobamate effect is preferred...
PATHIBAMATE-200 Tablets: 200 mg. of meprobamate; 25 mg. of PATHILON

Where a full meprobamate effect is preferred...
PATHIBAMATE-400 Tablets: 400 mg. of meprobamate; 25 mg. of PATHILON

Dosage: Average oral adult dose is 1 tablet t.i.d. at mealtime and 2 tablets at bedtime.

Pathibamate® 400 200

meprobamate with PATHILON® tridihexethyl chloride Lederle

...clinically proven safety

The efficacy of **PATHIBAMATE** has been confirmed clinically in **duodenal ulcer, gastric ulcer, intestinal colic, spastic and irritable colon, ileitis, esophageal spasm, anxiety neurosis** with gastrointestinal symptoms, and **gastric hypermotility.**

Pictured are the results obtained with the PATHILON (tridihexethyl iodide)–meprobamate combination† in a double-blind study of 303 ulcer patients, extending over a period of 36 months.* They clearly demonstrate the efficacy of **PATHIBAMATE** in controlling the symptoms.

SIDE EFFECTS	TRIDIHEXETHYL IODIDE† MEPROBAMATE	TRIDIHEXETHYL IODIDE†	METHANTHELINE BROMIDE	ATROPINE SULFATE	PLACEBO
DRY MOUTH	1%	5%	72%	46%	5%
STOMATITIS	1%	0%	28%	14%	0%
VISUAL DISTURBANCES	0%	0%	50%	34%	1%
URINARY RETENTION	0%	0%	18%	11%	1%
DROWSINESS	20%	0%	0%	0%	0%
COMPLICATIONS OR SURGERY					
HEMORRHAGE	0%	9%	3%	9%	10%
PERFORATION	0%	0%	0%	6%	0%
OPERATION	0%	5%	5%	14%	2%
RECURRENCES					
NONE	28%	23%	25%	17%	26%
FEWER AND MILDER	67%	62%	52%	37%	24%
SAME OR MORE	5%	15%	23%	46%	50%

*Atwater, J. S., and Carson, J. M.: Therapeutic Principles in Management of Peptic Ulcer. **Am. J. Digest. Dis.** 4:1055 (Dec.) 1959.

†PATHILON is now supplied as tridihexethyl chloride instead of the iodide, an advantage permitting wider use, since the latter could distort the results of certain thyroid function tests.

Lederle LEDERLE LABORATORIES, A Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

control the tension — treat the trauma

National Foundation Offers 500 Health Scholarships

For the third straight year, the National Foundation, through its Health Scholarships Program, will offer five hundred four-year scholarships in the fields of nursing, occupational therapy, physical therapy, medical social work and medicine.

The purpose of the program, supported by the March of Dimes, is twofold. First, deserving students interested in careers in the understaffed health professions will be given financial aid to help complete their educational preparation for these professions. Secondly, this investment in human resources will help alleviate serious shortages of personnel, and thus assure more adequate care for patients.

Health Scholarships are $500 per year, renewable annually. They are apportioned geographically in each of the fifty states, the District of Columbia, Puerto Rico, the Virgin Islands, and, the Canal Zone. Each state (including Oklahoma) offers at least five scholarships, one for each profession; in the larger states twenty-five scholarships, five in each health field, are available.

Eligibility

All applicants must be citizens of the United States or the other specified territories. *Nursing, occupational therapy* and *physical therapy* applicants must be high school seniors who will graduate between January and July of 1961, and who plan to enter a regionally accredited college in the fall of 1961. They must also be eligible for a baccalaureate degree upon completion of professional training.

Medical social work applicants must be college sophomores who will enter the junior class in 1961 and who are planning two years of graduate work in an approved graduate professional school of social work following completion of the baccalaureate program.

For a scholarship to study *medicine*, the applicant must be a *college undergraduate* accepted by an AMA-approved school of medicine in the United States for admission in the fall of 1961. Students already possessing baccalaureate degrees or those already in medical school are ineligible.

Selection Procedures

Credentials of Health Scholarships applicants are reviewed on a competitive basis in each of the states and territories by a Health Scholarship Selection Committee. This committee is composed of one local representative from each of the five health professions included in the program. Criteria are: scholastic achievement, personal qualifications, professional promise and financial need.

The winners are under no obligation to the National Foundation; their sole responsibility is to complete their education and serve their chosen health field.

Application forms and detailed information may be obtained from highschools and colleges, from the National Foundation chapters at county and state levels, and from the National Foundation, 800 Second Ave., New York 17, New York. Applications and required credentials must be mailed to the New York office by April 1, 1961.

Clinic Leader Proposes "Regulated" Health Insurance and Group Practice As Health Care Utopia

Speaking under the title "Render Unto Caesar," Russell V. Lee, M.D., in his presidential address to the American Association of Medical Clinics, appealed to the medical profession and governmental agencies at all levels to work together as a team, "to meet the great and urgent challenge" of delivering adequate medical care to all Americans. The Association held its 11th Annual Meeting at the Roosevelt Hotel in New Orleans, October 6-8.

In reference to government's role in the health field, Doctor Lee declared, "Access to health services of high quality is a fundamental right which government must guarantee if the individual is unable to do so." He emphasized, however, that individual initiative is the most important single element in achieving optimum health care and recommended an intensive health education campaign "to make America the best educated nation in matters of health."

More specifically in regard to the balance of power between government and private practice, Doctor Lee had this to say: "Pri-

vate means should be utilized for the provision of these (medical) services and public means should be used for their payment when this is an obligation of the government."

To achieve this arrangement, he proposed that the government should purchase prepaid plans for groups of people for whose medical care government is responsible, such as veterans, military dependents, the indigent and the mentally ill. Before doing so, however, it would first be necessary to eliminate the inadequacies of many health insurance plans. Doctor Lee suggested the creation of a "Federal Health Insurance Commission," similar to the I.C.C., F.T.C., and other regulatory commissions, to set up criteria for acceptable health insurance plans and perhaps to design ideal policies.

Such a system, he said, "will give the private practice of medicine a tremendous boost and will improve the quality of medical care."

"Group practice," Doctor Lee continued, "provides the most efficient and most closely quality-controlled device for medical care. . . . It is my firm belief that the only hope for the avoidance of governmental medicine lies in the great extension of group practice combined with direct prepayment plans."

"It is possible to work out a solution . . . that does not involve governmental control. We can be a veritable medical Utopia and we should achieve it. We should make sure that no one dies prematurely, that no one suffers unnecessarily, that no one is denied access, because of a price he cannot pay, to medical services of the highest quality."

In other remarks, Doctor Lee stressed the need of government participation in meeting "an acute shortage of doctors, nurses and technicians of all kinds." He proposed Federal grants for medical school buildings and equipment, grants to supplement salaries of medical school teachers, and scholarships.

In the medical research field, he urged that every town of 25,000 or more have a medical research institute, "so that any doctor who has a bright idea, even though in practice, may have a chance to implement it." He further proposed that public health services be strengthened at every level.

OU Doctors Find New Drug Helps Elderly

Oklahoma City doctors believe they may have a partial answer to the question of how to keep elderly people from wasting away.

It is "19-nortestosterone phenylproprionate," sometimes shortened to "nondrolone phenylproprionate," which has been developed in Europe.

Doctor Philip Johnson, until recently chief of the radioisotope service at the Oklahoma City Veterans Administration hospital and an associate professor of medicine at the University of Oklahoma Medical School, said the new drug seems to be quite helpful to geriatric patients who chronically suffer from loss of weight, atrophied muscles, and poor appetite.

Doctor Johnson is now on the staff of Methodist Hospital in Houston, Texas.

Studies completed by Doctor Johnson, Doctor Mervin Clark, chief of the medical service at Central State Hospital, Norman, Oklahoma, and Doctor Carl W. Smith, assistant chief of medical service at Central State Hospital, show the new drug to be useful in the building of muscle, gaining of weight and improving of nutritional status.

Selected for the study were 48 women at Central State Hospital, Norman. The women ranged in age from 50 to 94. All were 20 per cent or more below their ideal weight.

Nandrolone phenylproprionate was given to one group of 12 for four weeks, to a second group of 12 for eight weeks, and to a third group of 12 for 12 weeks. A fourth group received no shots.

The women given the drug four weeks gained an average of 4½ pounds; the groups receiving the drug for longer periods gained from 9 to 10 pounds. Those who received the drug, Doctor Johnson said, "had increased appetite and a general sense of well being."

No evidence of damage to the blood, the liver or other vital organs, which were checked carefully at intervals throughout the study, was found.

Medical History of W.W. II Published by Army Historical Unit

Under the direction of the Surgeon General of the Army, the Historical Unit of the U. S. Army Medical Service is publishing a series of forty-eight volumes entitled, "History of the Medical Department, U. S. Army, in World War II." Of the total volumes programmed for the series, fifteen are now published and ready for purchase from the Superintendent of Documents, Government Printing Office, Washington 25, D.C.

According to Lieutenant General Leonard D. Heaton, the Army Surgeon General, many of the medical lessons learned in World War I had to be relearned under fire during World War II because of paucity of distribution of the history of the first war. The preparation, publication and distribution of information on the second war is designed to prevent a *similar* occurrence in the event of another war.

Volumes now available are:

"General Surgery," edited by Michael E. DeBakey, M.D. ($4.25).

"Neurosurgery," Volume I (Head Injuries), edited by R. Glen Spurling, M.D. and Barnes Woodhall, M.D. ($5.00).

"Neurosurgery," Volume II (Spinal Cord and Peripheral Nerve Injuries), edited by R. Glen Spurling, M.D. and Barnes Woodhall, M.D. ($7.00).

"Hand Surgery," edited by Sterling Bunnell, M.D. ($3.75).

"Ophthalmology and Otolaryngology," edited by M. Elliott Randolph, M.D. and Norton Canfield, M.D. ($5.00).

"Orthopedic Surgery, European Theater of Operations," edited by Mather Cleveland, M.D. ($4.00).

"Orthopedic Surgery, Mediterranean Theater of Operations," by Oscar P. Hampton, M.D. ($4.00).

"Physiologic Effects of Wounds," edited by Fred W. Rankin, M.D. and Michael E. DeBakey, M.D. ($3.50).

"Vascular Surgery," edited by Daniel C. Elkin, M.D. and Michael E. DeBakey, M.D. ($4.25).

"Cold Injury, Ground Type," by Tom F. Whayne and Michael E. DeBakey, M.D. ($6.25).

"Dental Service," by George F. Jeffcott, D.M.D. ($3.25).

"Environmental Hygiene," by James Stevens Simmons, M.D. and others ($3.50).

"Personal Health Measures and Immunization," by John E. Gordon, M.D., Tom F. Whayne, M.D. and others ($3.25).

"Communicable Diseases," Volume IV, by John E. Gordon, M.D., Joseph Stokes, M.D. and others ($5.50).

"Hospitalization and Evacuation, Zone of Interior," by Clarence McKittrick Smith ($4.00).

Cancer Symposium Will Be Held in Tulsa

Tulsa will host the Eighth Annual Cancer Symposium of the American Cancer Society, Oklahoma Division on December 3, 1960. Headquarters for the one-day meeting will be in the Hotel Tulsa.

A detailed program of the one-day meeting follows:

8:00 a.m.-9:00 a.m.—Registration

9:00 a.m.-12:15 p.m.—Morning Session

John R. Heller, M.D., President, Sloan-Kettering Memorial Hospital, New York City, "Cancer and Viruses"

Harry S. N. Greene, M.D., Laboratory of Pathology, Yale University School of Medicine, "Biological Differentiation of Benign and Malignant Tumors"

Gerald O. McDonald, M.D., Professor of Surgery, University of Illinois, "Mechanisms of Cancer Dissemination"

Gilbert H. Fletcher, M.D., M.D. Anderson Hospital and Tumor Institute, "Clinical Evaluation of Supervoltage Roentgen Therapy"

General Discussion with Question and Answer Period

12:30 noon—Luncheon

2:00 p.m.-5:00 p.m.—Afternoon Session

Dr. Heller—"Chemotherapy of Cancer"

Dr. Greene—"Inhibitory Influence of a Transplanted Hamster Lymphoma on Metastases"

Dr. McDonald—"Chemotherapy as an Adjunct to Surgery for Malignancy"

Dr. Fletcher—"The Place of Radiation Therapy in the Treatment of Breast Carcinomas"

General Discussion with Question and Answer Period

AMA Clinical Meeting Schedules Color Telecasts

Six one-hour, color television presentations originating in Georgetown University Hospital will be shown at the National Guard Armory during the 14th Clinical Meeting of the American Medical Association in Washington, D.C., November 28-December 1.

The live presentations, televised in a special studio or from operating rooms at the hospital, will deal with dermatology, pediatrics, emergency treatment of major injuries, newer methods in surgical treatment of peptic ulcer, orthopedics and pathology.

Dermatology

Demonstration of common skin lesions on patients and discussion of the cases by two physicians; a review of common skin lesions, their diagnosis and differential points.

Pediatrics

Presentation of mental retardation in children as a treatable disease. Consideration of the three conditions manifesting mental retardation—brain damage, metabolic disease and special defects. Diagnosis and treatment.

Major Injuries

Presentation of methods of approach to the acutely injured patient. Discussion of immediate, emergency care of a group of common serious injuries. Outline in a graphic manner of the lifesaving methods which must be used.

Peptic Ulcer

Presentation of an operation for the treatment of duodenal ulcer. Operation showing a hemi-gastrectomy, vagotomy and gastroduodenostomy. Diagnostic criteria.

Orthopedics

Surgical clinic on the reconstruction of diseased joints; an operation using compressed polyvinyl sponge. Panel discussion of indications for operation in arthritis and other joint diseases.

Pathology

Presentation of characteristic lesions and x-ray patterns of pulmonary diseases.

Oklahoman Elected Medical Assistants Speaker

Mrs. Lucille Swearingen, Bartlesville, Oklahoma, was elected speaker of the House of Delegates of the American Association of Medical Assistants during the group's annual meeting held recently in Dallas.

Mrs. Swearingen, the wife of R. A. Swearingen, was named during concluding sessions of the AAMA's fourth annual convention. Employed as a medical assistant in the offices of Doctors V. M. Lockhard and F. C. Wallingford, Bartlesville radiologists, Mrs. Swearingen served as president of AAMA in 1959.

More than 400 women employed as nurses, medical assistants and secretaries in physicians' offices attended educational and business sessions at the Hotel Adolphus. Only four years old, the American Association of Medical Assistants now has more than 9,000 members in 28 states around the country.

Graphic illustration of the gross and microscopic pathologic lesions of certain diseases of the lung, including eosinophilic granuloma and infectious pseudo-tumor.

PHS Begins Occupational Health Activity

The strengthening of the Public Health Service's nation-wide program to protect the health of American workers through the creation of a new Division of Occupational Health was announced today by the Surgeon General.

The new Division, which replaces the Occupational Health Program, follows the recommendation of the Study Group on Mission and Organization of the Public Health Service, designed to place greater emphasis on all types of environmental health hazards. It provides for "long-needed increased efforts" in the occupational health field as recommended to the Surgeon General by the Study Group. Doctor Harold J. Magnuson has been named Chief of the new Division.

To keep pace with a changing technology and multiplying hazards in the work environment, the Division will carry out an expanded research program directed at developing better techniques, materials, and equipment for use in the prevention, diagnosis, and treatment of occupational disease. Major research efforts will be intensified in toxicology and in related fields of clinical medicine, engineering, chemistry, and physics. In addition, the physiological and psychological factors in the work environment will come under more penetrating study.

Greater emphasis will also be focused on the training of personnel in occupational medicine and nursing and in industrial hygiene to meet the needs of this rapidly growing field. The Division will work with academic institutions and other groups to help develop the necessary professional resources.

A third area of major expansion is in state aid services, designed to support and assist official agencies in the development and operation of occupational health programs throughout the nation.

The Division will also be responsible for stimulating effective community and industrial efforts to supply occupational health services.

Research and technical services, as well as training activities, will be carried out at Cincinnati, Ohio. State aid activities, occupational health nursing consultation, and studies and consultation relating to employee health programs will be centered at the Division's administrative headquarters in Washington, D.C.

Physicians Warned Against Tricks of Addicts

According to Arnold Moseley, Chief of the Narcotic Enforcement Division of the Attorney General's Office, several new ruses are being used by addicts to illegally get narcotics from physicians and pharmacists.

One report tells of a woman with nursing experience who went to a doctor complaining of a kidney stone. At first, x-ray examination indicated the presence of a stone, but the physician's suspicion led him to pursue the investigation to the extent he finally located a bead in the vagina, situated in a position where it appeared on x-ray as a stone.

Another method of deceit which has been used recently involves a fake telephone prescription from an alleged physician to the pharmacist. A person will call the drugstore, asking if a certain doctor has called in a prescription. The pharmacist has, of course, received no such call, so the person will then tell him that the doctor has probably gone home and can be reached there by phone (the caller has previous knowledge that the physician is not at home). The person also states that the doctor gave him another number where he could be reached in the event he was not at home. When the pharmacist calls the physician's home and receives no answer, he calls the other number and a woman answers, who, in turn, then calls an imposter-doctor to the phone. The fake doctor admits that he forgot to call in the prescription for 12 tables, 100 mg. each of demerol and further asks the pharmacist to have the patient call him when he picks up the prescription in order that an appointment may be made to remove the stitches.

The alleged doctor has often been able to use the correct registry number of the physician he is impersonating. This envolved ruse has been used successfully in the Oklahoma City area.

Electronic Larynx—New Device for Laryngectomees

A new electronic larynx is now available for persons who have lost their voices through paralysis or surgical removal of the vocal cords.

This device weighs seven ounces and is designed to fit in the user's hand. The user holds it against the outside of his throat and the electronic larynx transmits sound waves into the throat cavity. A finger control enables the user to vary the pitch of his voice over a half-octave range in order to produce more natural inflections of speech and to emphasize words and phrases.

It is produced in two models—one is high pitched to simulate the female voice and the other has a lower pitch for use by men.

The electronic larynx was developed by Bell Telephone Laboratories scientists, working in cooperation with the medical staff of the National Hospital for Speech Disorders in New York City.

The device is being sold by Bell System telephone companies at a non-profit cost of $45. It is manufactured by Western Electric Company, supply and manufacturing branch of the Bell Telephone System. Each new unit carries a one year guarantee against manufacturer's defects. After the guarantee period has expired, Western Electric will repair the artificial larynx at a small, non-profit cost.

In Oklahoma the electronic larynx is being sold by Southwestern Bell Telephone Company. Call any Southwestern Bell Business Office for information on availability of the device and arrangements for demonstrations.

A spokesman said the company is training representatives to demonstrate the electronic larynx.

"Our representatives will not try to be speech therapists," he pointed out. "We will urge all interested persons to first consult their own physicians about using the electronic larynx. We will point out that esophageal speech generally is the preferred method of communications for laryngectomees and that the artificial device primarily is designed for use by persons unable to master this method speech or who temporarily lose the ability to talk this way."

The electronic larynx is essentially trouble-free, he said. It uses Bell transistors and is powered by self-contained mercury batteries. Battery life ranges up to several months, depending on amount of use. New batteries may be purchased at any radio supply store.

The speech volume is equivalent to a normal talker speaking at a conversational level.

The spokesman said most persons can learn to talk with the electronic larynx after a relatively short period of practice. With more practice, the user can learn to operate the pitch control to produce speech with a considerable degree of intelligibility and naturalness.

The Bell System has provided artificial larynges to laryngectomees for many years. While the new electronic larynx replaces the earlier models, parts for the older models will still be available.

American Rheumatism Ass'n To Meet in Dallas

For the first time in its history, the American Rheumatism Foundation will meet in the Southwest, holding its Seventh Interim Scientific Session in Dallas on December 9 and 10. The event will take place in the Sheraton-Dallas Hotel.

During the Saturday morning session, the ARA members will be joined by the members of the Texas Academy of Internal Medicine and the members of the Texas Rheumatism Association. Current meeting plans provide for a panel discussion on "Lupus Nephritis," with participation by a nationally known pathologist, electromicroscopist and several clinicians. The panelists will discuss the clinical and pathological picture of this lesion and its course on steroid therapy.

There is no registration fee for the meeting. Printed programs will be available at the meeting or two weeks before by writing to the Executive Secretary, American Rheumatism Association, 10 Columbus Circle, New York 19, New York.

$780,000 Contributions Made To 'Project Hope' by Drug Firms

Fifty-two of the nation's leading prescription drug manufacturers have contributed in excess of $780,000 in products and cash to Project HOPE, according to Doctor William B. Walsh, president of the People-to-People Health Foundations, sponsor of the project. Over $100,000 of the companies' contributions were in cash. Product values were computed according to manufacturers' wholesale prices.

The donations, coordinated by the Pharmaceutical Manufacturers Association, came from PHA member companies.

"The support of the member companies of PMA has earned the unending gratitude of the people of Indonesia and Viet Nam," Doctor Walsh said, " and it serves as an example of enlightened generosity to our own fellow citizens. This response has earned the deepest gratitude of all of us connected with Project HOPE."

A part of President Eisenhower's People-to-People program, Project HOPE will send a 15,000 ton hospital ship, the SS HOPE I, to Southeast Asia on September 22. Staffed with American doctors, nurses, and medical technicians, the floating medical center will bring modern medical knowledge and techniques to the medical and health professions of newly developing countries throughout the world.

"As a non-government program, Project HOPE could only succeed with the cooperation and backing of all segments of American society," Doctor Walsh said. "The response of the American drug industry, many other industries, businesses, and groups, American labor, and the American public is proof that our confidence in the conscience of America was warranted."

Doctor Walsh also reported that contributions totaling many thousand of dollars had been raised from non-PMA members in the ethical drug industry and from proprietary drug companies.

Doctor Austin Smith, President of PMA, expressed his gratitude to member companies for their support and pointed out that "the final success of Project HOPE will depend on continuing support of all facets of American industry and the general public."

"I am informed that HOPE has received more than $2 million of the $3.5 million needed to operate the ship for its first year," Doctor Smith said.

Have You Heard?

CHARLES A. SMITH, M.D., Norman, became president of the Mid-Continent Psychiatric Association at the organization's annual meeting which was held in Little Rock, Arkansas, recently. Doctor Smith succeeds LOUIS A. COHEN, M.D., Little Rock, as president.

J. C. WAGNER, M.D., a practicing physician in Ponca City for 38 years, has accepted an appointment as a staff physician for Western State Hospital at Fort Supply as head of the Department of Geriatrics.

F. C. BUFFINGTON, M.D., Norman, has announced his association with FRANK H. COOPER, M.D., formerly of Spearman, Texas. Doctor Cooper is a 1958 graduate from the University of Oklahoma School of Medicine.

PAT FITE SR., M.D., Muskogee, took office as president of the Oklahoma Chapter of the American College of Surgeons during the organization's annual meeting at Western Hills Lodge in Sequoyah State Park. Other officers installed were HUGH PERRY, M.D., Tulsa, vice-president and ED MOORE, M.D., Tulsa, councilor. JOE PARKER, M.D., Oklahoma City, is president-elect of the group.

CHARLES E. GREEN, M.D., Lawton, has been appointed Comanche County Superintendent of Health.

HOWARD FRIEZE, M.D., is now associated with CHARLES HOLLAND, M.D., at the Holland-Frieze Clinic in Broken Arrow. A graduate of the University of Oklahoma School of Medicine, Doctor Frieze had been in practice in Tulsa before moving to Broken Arrow.

Letter to the Editor

Dear Doctor Nicholson:

TWO-WAY RADIO: A Problem Solved

All doctors know the feeling of "nervous relaxation" when they are temporarily "out of pocket" while taking a few hours off for rest, recreation, or personal business. I think that I have this problem of medical practice solved. See how this might help you!

Two-way radio is my new partner. Veterinarians all over the country, especially in the wide-open spaces of the West and Mid-west, have been using radio communication for years to save hundreds of miles and hours of time in traveling between calls. For instance, a call to one part of the county might entail 30 to 60 minutes of travel each way. Many times, the veterinarian might find, when he reaches his office, that he has another call to the same vicinity from which he has just returned; one can readily see how much time and effort can be saved by direct communication with the office while it is necessary to be so far away.

Being a small-town doctor, I felt that there was a good chance that two-way radio could save me time in the same way. I discussed the idea with my good friend, the veterinarian, who had only recently established a base station at his home with a mobile unit in his truck and a remote-control unit at his office, whereby he was constantly in touch with his office during office hours and with his home during off-hours. He very kindly consented to my purchasing a mobile unit for my car and a remote-control unit for my home to operate on his frequency. Now I am in touch with my office and my home at all times. If I want to run out to a good fishing hole for an hour or two I can do so with complete relaxation. During the wee hours of the night or at any time that my DVM friend is at home, he merely flicks a switch so that he will not be bothered by any transmission on my set. The argument that this makes me *too* available is not valid, because—remember—I can always turn the doggone thing off!

Now the sets which we have are not the citizen-band sets which are good for only a few miles; our sets are on a strict frequency with station assignment by the Federal Communications Commission. The range is about 25 miles, which is adequate for my purposes. The cost is nominal, for I purchased good reconditioned equipment. My car mobile unit cost $275.00, and the remote-control unit for my home cost $100.00. I use these only for business, which was my sole purpose in getting the radios in the first place; therefore, the cost is tax-deductible.

I feel that I save so much time and at the same time am more readily available that I wouldn't be without my radio now, although I have had to take some ribbing now and then . . . having been accused of trying to make more money as a taxi or by taking calls for the vet!!

A few examples of my use of the radio may further point out its advantages. For instance, after lunch, I can run a few personal errands about town, all the while keeping in touch with my office as to whether there are patients waiting for afternoon office hours. Evening time is saved by keeping in touch with my wife so that she knows where I am and when I may be expected for dinner. Only this morning, I made a house call several miles out into the country, where I found that my patient was a cardiac case. I notified the hospital via my radio that I was bringing in the patient, and the nurses were able to set up a room with oxygen and to meet me at the emergency room entrance.

My expense was not great; however, it would be only fair to say that if you do not have a kind friend who already has a base station, your initial outlay will be higher. Even so, if one shops around for *good* used equipment, the cost is not prohibitive. Also, there is the possibility that there may be several of your colleagues with whom you could share the expense.

Two-way radio is here to stay with me. But I never forget that I can always turn it off.

LYNN C. BARNES, Jr., M.D.
Box 352, Nowata, Oklahoma

Coming Meetings

University of Oklahoma Medical Center
POSTGRADUATE SHORT COURSES

Dec. 14—Anesthesiology—Anesthesia in General Practice.

Jan. 11—Pediatrics—Pediatric Radiology (tentative).

Feb. 8—Medicine—Cerebral Vascular Disease.

March 8—Urology—Symposium and C. B. Taylor Lectureship.

April 12—Surgery—Techniques of Cardiac Resuscitation.

May 10—Pediatrics—Infectious Diseases in Infancy and Childhood (tentative).

Courses, offering four hours of formal instruction, are held from 3:30 to 8:30 p.m., the second Wednesday of the month, in the Medical School Auditorium. Registration is $3 per session or $25 for the entire series. Additional information may be obtained by writing the Office of Postgraduate Education, University of Oklahoma School of Medicine, 801 N.E. 13th, Oklahoma City, Oklahoma.

Oklahoma Chapter
AMERICAN ACADEMY OF GENERAL PRACTICE
February 6, 7, 1961 **Biltmore, Hotel**
Oklahoma City, Oklahoma

The 13th Annual Meeting of the Oklahoma Chapter of the American Academy of General Practice will be held at the Biltmore Hotel in Oklahoma City, February 6, 7, 1961.

Details may be obtained by writing to the Executive Secretary, Oklahoma Chapter, American Academy of General Practice, 503 Medical Arts Building, Oklahoma City.

CORONARY ARTERY DISEASE
Nov. 28-Dec. 2, 1960 **Texas Medical Center**
Houston, Texas

The University of Texas Postgraduate School of Medicine will present a symposium on Coronary Artery Disease, November 28 through December 2, 1960 at the Texas Medical Center, Houston, Texas. Six guest lecturers, augmented by a local faculty, will present the program.

This five-day program has been approved by the Academy of General Practice for Category I Credit. No tuition will be charged unless physicians attending desire AAGP credit in which case a $5.00 registration fee will be required.

For further information write: Office of the Dean, University of Texas Postgraduate School of Medicine, 410 Jesse Jones Library Building, Texas Medical Center, Houston 25, Texas.

GENERAL PRACTICE REVIEW
January 8-14, 1961 **Denver, Colorado**

An annual postgraduate course designed especially for the general practitioner will be held January 8-14, 1961 in Denver, Colorado.

Detailed information may be obtained by writing to the Office of Postgraduate Medical Education, the University of Colorado School of Medicine, 4200 East Ninth Avenue, Denver 20, Colorado.

ROCKY MOUNTAIN TRAUMATIC SURGICAL SOCIETY
January 26, 27, 28 1961 **Aspen, Colorado**

The Rocky Mountain Traumatic Surgical Society will meet in Aspen, Colorado, January 26, 27, 28, 1961 with headquarters at the Aspen Meadows.

Further information may be obtained by writing to Hugh A. MacMillan, M.D., 1801 High Street, Denver 18, Colorado.

9th ANNUAL CANCER SEMINAR
Arizona Division
American Cancer Society
January 12, 13, 14, 1961 **Tidelands Motor Inn**
Tucson, Arizona

"Changing Concepts in Tumor Formation and Therapy" will be the theme for the three-day meeting of the 9th Annual Cancer Seminar to be presented by the Arizona Division of the American Cancer Society on January 12, 13 and 14, 1961 in Tucson, Arizona.

Further information may be obtained by writing to the American Cancer Society, Arizona Division, 37 East Jackson Street, Tucson, Arizona.

THE AMERICAN COLLEGE OF PHYSICIANS
Schedule of Postgraduate Courses
Autumn-Winter, 1960-1961

The following postgraduate courses have been listed by the American College of Physicians:

RECENT ADVANCES IN DRUG THERAPY
January 9-13, 1961 — University of Washington School of Medicine
Seattle, Washington

MECHANISMS OF DISEASE
January 16-20, 1961 — Columbia University College of Physicians and Surgeons
New York City, New York

SELECTED TOPICS IN INTERNAL MEDICINE
February 20-24, 1961 — University of Oklahoma School of Medicine
Oklahoma City, Oklahoma

Additional information may be obtained by writing to The American College of Physicians, 4200 Pine Street, Philadelphia 4, Pennsylvania.

Auxiliary News

Sink or Swim?

"Unhampered medical schools constitute the foundation of the free enterprise system of the private practice of medicine," says Mrs. James L. McCartney, National A.M.E.F. Chairman. We concur; how do you help?

Many auxiliaries budget their contribution. Some counties have special fund-raising projects. Members contribute regularly, in some cases; while others send memorials through A.M.E.F.

Last year gifts from Oklahoma totaled $1,147.02, an increase of $439.98 over the preceding year. Based on our July, 1959, membership, our per capita contribution was $1.00. Can we, who express deep concern and interest in our own University of Oklahoma School of Medicine, be proud of this record? The answer is obvious. How thankful we can all be that we have time to make constructive amends.

At the National Convention presentation of a check for $175,010.00 was made by National to the American Medical Education Foundation. This represents an average of $2.24 from each Auxiliary member. As you can quickly see, Oklahoma contributed less than half the national average. We are asked this year to insure a $5.00 contribution from each member. In view of the current situation, can we not guarantee our cooperation?

If you have not read our previous coverage on A.M.E.F., consult your local chairman or county president for details on the proper way to make your contribution or memorial. By starting immediately, we can arouse the interest of every member. Our State Chairman is Mrs. F. H. McGregor, 928 N.E. 15th Street, Oklahoma City.

For further reading, consult your September A.M.A. Auxiliary *Bulletin*, pages 11, 27, and 58. The latter article, *Medicine as a Career*, by Glen R. Shepherd, M.D., is a "must," also, for Health Careers and Recruitment Chairmen.

Fall Conference

October 24th a "sunny Monday" Fall Conference was held at the State Medical Office in Oklahoma City. Mrs. Peter A. MacKercher, State Program Chairman, introduced the participants with a lively washday theme. New plans and ideas, coupled with reports from all of our busy officers, chairmen and county presidents, tumbled from the pink washer-dryer podium. Preceding the board meeting, a coffee was served to members and guests by the Hospitality Committee. Mrs. Virgil Ray Forester, State President, presided at both the board meeting and at the luncheon at Ramada Inn. During the luncheon, keynoted by a musical theme, current fashions were modelled.

The Two R's

Required Reading: Last month we mentioned the almost impossible task of keeping up with current reading in the field of medical problems. Not too long ago our doctor husbands were complaining about lack of time to cover articles by Paul de Kruif and Maxine Davis before their patients bombarded them with questions. The trend today—in our own direction—is toward defensive preparation, being able to give intelligent answers to many questions.

Harper's October medical supplement, *The Crisis in American Medicine* provides these provocative titles: *The Politics of Medicine; The Decline of the Healing Art; The Patient's Right to Die; Do You Really Want a Family Doctor?; A Doctor Prescribes for His Profession*; and several others. Whether you agree, disagree, or have never particularly thought about some of these problems, they concern each of us. If we are to help "Preserve and enhance the heritage of American Medicine," we must, above all, participate actively in our medical auxiliary and keep in step with today's problems.

Deaths

SAM P. ROSS, M.D.
1862-1960

Sam P. Ross, M.D., 98-year-old Ada physician died October 10, 1960.

A native of Missouri, Doctor Ross graduated from Baylor University College of Medicine. Coming to Oklahoma in 1900, he established his practice in Kiowa. After ten years in Kiowa, Doctor Ross moved to Ada where he remained until his retirement in 1947.

The Oklahoma State Medical Association honored Doctor Ross in 1942 when they made him an Honorary Member and again in 1951 when he was presented a 50-Year-Pin in recognition of his years of service to the medical profession.

CLAUDE BRYAN WATERS, M.D.
1907-1960

Claude Bryan Waters, M.D., 53-year-old Pawnee physician and rancher, died October 7, 1960 in Pawnee

After graduating from the University of Oklahoma School of Medicine in 1934, Doctor Waters practiced medicine in Marietta and Duncan prior to his service with the U.S. Army during World War II. After his discharge, he established a limited practice in Pawnee.

PHYSICIAN PLACEMENT

General Practice

John William Kennard, M.D., Blowing Rock Hospital, Blowing Rock, North Carolina; married; age 29; Bowman Gray School of Medicine, 1956; veteran; available August 29, 1960.

Carle H. Schroff, M.D., 3811 State Line, Kansas City 11, Missouri: Age 31; married; University of Kansas, 1959; veteran; available August, 1960.

Floyd E. Webb, Jr., M.D., 2527 Webster Drive, Alexandria, Louisiana; age 27; married; University of Oklahoma, 1957; available August, 1961.

Kenneth T. Woodsides, M.D., 1923 19th Loop, Sandia Base, Albuquerque, New Mexico; age 27; married; Medical College of Alabama, 1957; available April, 1961.

Internal Medicine

Spencer E. Berry, M.D., 13630 Flynn, Le Puente, California; single; University of Oklahoma, 1950; available now.

Jeanne B. Johnson, M.D., 4917 SE Cornell Drive, Bartlesville, Oklahoma; age 31; married; University of Oklahoma School of Medicine, 1955; specialty, internal medicine; eligible, immediately.

Sam A. Kinard, Jr., 3522 E. 17th Avenue, Denver 6, Colorado; age 29; married; Baylor University of Medicine, 1956; 2 years medical residency and 2 years cardiology residency; available July, 1961.

Jack G. Smith, M.D., 812 North Third St., Bellaire, Texas; age 32; married; University of Texas School of Medicine, 1953; available January, 1961.

Thomas Turner Walton, Jr., M.D., 7375 Churchill, Detroit, Michigan: Age 29; married; Baylor College of Medicine, 1955; Board eligible; veteran; specialty, internal medicine; desires group or associate practice; eligible, July 1961.

Locum Tenens

Harold W. Calhoon, M.D., Wesley Hospital, Oklahoma City. One year residency in Internal Medicine. Available July 1 to September 15th, 1960.

Russell M. Preston, M.D., 476 San Juan, Oak Harbor, Washington, desires six month's work in General Practice between time of separation from military service to beginning of residency training, January-July, 1960.

Obstetrics and Gynecology

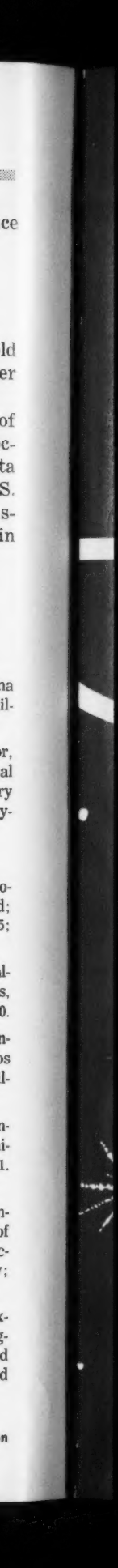
Walter G. Crowe, M.D., Mercy Hospital, Pride 4, Locust St., Pittsburgh, Pennsylvania; age 39; married; University of Tennessee College of Medicine, 1955; board eligible; available March 10, 1961.

Gerald R. Keilson, M.D., Medical Arts Building, Dallas, Texas, age 31, married, University of Texas, 1953, board qualified, veteran, available in July 1960.

Juan C. Ruiz, M.D., 350 Park Ave., Lexington, Kentucky; age 36; married; University of San Marcos Medical School 1952; no military obligations; available July 1, 1960.

Robert B. Williams, M.D., 27 Normandy Road, Auburndale 66, Massachusetts; married; age 30; Tulane University, 1955; board certified; available July 1, 1961.

Surgery

David S. Bachman, M.D., 301 North 2nd St., Allentown, Pennsylvania; age 38; married; University of Buffalo, 1947; board certified general surgery; specialty, broncho-esophagology and thoracic surgery; available immediately.

Emmet J. Thorpe, M.D., 6811 Stockton Drive, Knoxville, Tennessee; age 32; married; George Washington University School of Medicine, 1951; completed Part I of the requirements of the American Board of Orthopedic Surgery; available immediately.